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Addresses

HOW THE PRACTISING PHYSICIAN MAY AID THE DEPARTMENT OF HEALTH.*

By Allan J. McLaughlin, M.D., Boston,

Massachusetts State Commissioner of Health.

The practising physician has always been a great factor in the suppression of communicable diseases and his importance in public health work has been enormously increased in recent years because of the extension of public health work beyond the communicable diseases themselves.

The work of health departments and health officers has evolved from the suppression of contagious or epidemic diseases into the prevention of all disease and the business of keeping people healthy.

Wonderful progress has been made in the reduction of the general death rate and of the death rate for certain communicable diseases, notably, typhoid fever, tuberculosis and diphtheria.

Two great agencies stand out prominently in considering this great saving of lives, viz: the laboratory and the practical application of demography. Through these great agencies we have secured a better knowledge of the cause of disease, better knowledge of the prevalence of disease, and better knowledge of methods of prevention of disease.

* Read at the Boston Medical Library, February 17, 1915.

The laboratory has given us exact knowledge of the causes of many diseases and has demonstrated how these diseases are transmitted. With this knowledge more precise and effective methods of combating these diseases have been devised and employed. Exact knowledge of the specific organisms which cause Asiatic cholera, typhoid fever, tuberculosis and diphtheria, and of the life history of these organisms, makes it possible greatly to reduce the mortality from these diseases, and to eradicate them under favorable conditions.

In the laboratory also we manufacture antitoxins and vaccines with which we cure or prevent these diseases.

Demography is second only to the laboratory as a factor in the great reductions effected in recent years.

By the practical application of vital statistics we learn in what localities and to what degree these diseases exist and are able to attack them more intelligently. These statistics also show what results, if any, are being attained.

The progress made and the great reductions effected, especially in typhoid fever, diphtheria and tuberculosis, are due in greatest measure to the improvement in public water supplies, the free use of antitoxin, and the splendid team work of various health agencies against tuberculosis.

The future reductions in the general death rate may be grouped under three heads, viz:—

1. Further reductions in the mortality from tuberculosis, typhoid fever, diphtheria, and some other communicable diseases, to the point of complete eradication.

Years.	Cerebral Hemorrhage. Apoplexy. Deaths.	Rate per 100,000.	Organic Diseases of the Heart.* Deaths.	Rate per 100,000.	Cancer. Deaths.	Rate per 100,000.
1895.....	1813	72.5	3566	142.8	1749	70.0
1896.....	2035	79.5	3664	143.3	1798	70.4
1897.....	1988	76.0	3615	138.1	1739	66.5
1898.....	2103	78.6	3618	135.0	1907	71.3
1899.....	2162	78.9	3691	134.5	1838	67.0
1900.....	2161	77.1	3834	136.8	1998	71.2
1901.....	2277	80.0	4368	153.3	2080	73.1
1902.....	2402	83.3	4495	155.7	2141	74.3
1903.....	2434	83.1	4837	165.5	2243	76.8
1904.....	2663	89.8	5342	180.4	2421	81.7
1905.....	2843	94.7	5430	181.0	2501	83.3
1906.....	2855	93.6	5525	181.4	2603	85.5
1907.....	3068	99.3	6155	199.6	2744	89.0
1908.....	2979	95.2	5690	182.0	2814	89.8
1909.....	3128	98.6	5504	173.4	2871	90.6
1910.....	3263	97.0	5706	169.5	3028	90.0
1911.....	3310	96.1	5455	158.2	3199	92.8
1912.....	3496	99.6	6762	192.4	3282	93.5
1913.....	3451	96.5	6869	192.0	3526	98.5

* Includes acute endocarditis.

Year.	Population.	Consumption. Deaths.	Rate per 100,000.	Pneumonia. Deaths.	Rate per 100,000.	Typhoid Fever. Deaths.	Rate per 100,000.
1895.....	2,500,183	5486	219	4652	186.3	680	27
1896.....	2,558,437	5536	216	4703	184.3	723	30
1897.....	2,618,048	5431	207	4796	183.5	607	26
1898.....	2,679,048	5288	197	4206	157.0	663	25
1899.....	2,741,470	5221	190	4993	182.2	612	23
1900.....	2,805,346	5199	185	5282	188.5	632	23
1901.....	2,843,927	5033	177	4772	167.7	561	19.5
1902.....	2,883,030	4685	163	4583	159.0	538	18.3
1903.....	2,922,671	4531	155	5190	177.6	527	17.5
1904.....	2,962,857	4874	164	5100	172.0	463	17.5
1905.....	3,003,680	4702	157	5378	179.2	520	17.3
1906.....	3,044,980	4608	150	5377	176.4	477	15.7
1907.....	3,086,687	4771	151	5709	184.9	389	12.6
1908.....	3,129,128	4445	138	5363	171.3	517	16.5
1909.....	3,172,153	4393	133	5635	178.0	390	12.3
1910.....	3,366,416	4503	134	6677	198.4	411	12.2
1911.....	3,444,059	4418	128	5991	173.9	302	8.8
1912.....	3,511,510	4212	120	5965	170.0	269	7.7
1913.....	3,579,000	4180	117	6112	170.7	280	7.8

Year.	Measles Deaths.	Rate per 100,000.	Whooping Cough. Deaths.	Rate per 100,000.	Diphtheria and Croup. Deaths.	Rate per 100,000.	Scarlet Fever. Deaths.	Rate per 100,000.
1895.....	117	4.7	269	10.8	1784	71.0	483	19.3
1896.....	137	5.4	282	11.1	1677	66.0	249	9.8
1897.....	158	6.1	171	6.5	1426	55.0	342	13.1
1898.....	82	3.1	337	12.6	706	26.0	141	5.3
1899.....	241	8.3	338	12.3	1047	38.0	235	8.6
1900.....	330	11.8	337	12.0	1475	53.0	330	11.8
1901.....	173	6.1	210	7.4	1166	41.0	385	13.5
1902.....	333	11.5	337	11.7	873	30.3	313	10.8
1903.....	247	8.4	519	17.8	869	29.7	510	17.5
1904.....	160	5.4	117	3.9	699	23.6	138	4.7
1905.....	177	5.9	218	7.3	652	21.7	117	3.9
1906.....	208	6.8	509	16.7	743	24.4	135	4.4
1907.....	163	5.3	243	7.9	752	24.4	285	9.2
1908.....	331	10.6	288	9.2	747	23.9	369	11.8
1909.....	157	5.0	250	7.9	694	21.9	259	8.2
1910.....	240	7.1	183	5.4	679	20.2	254	7.5
1911.....	158	4.6	292	8.5	563	16.3	184	5.3
1912.....	286	8.2	225	6.4	473	13.5	118	3.4
1913.....	315	8.8	239	6.7	628	17.6	293	8.2

2. Reduction in communicable diseases whose rates have not been materially reduced.

3. Reduction in the rates for infant mortality, cancer, and a number of diseases which are preventable, but not communicable.

The field of preventive medicine is so large that I will not attempt to discuss all the problems in which your assistance is needed by the State Department of Health.

I will discuss briefly some of the diseases in which great success has already been achieved, and invite your attention also to some problems

which have been more or less neglected or upon which no concerted attack has been made.

Two things influence health officers in selecting the factors in mortality upon which it is best to concentrate their efforts:

1. The number of deaths due to the factor.
2. The possibility of effecting prompt and significant reduction in the death-rate for this factor.

TUBERCULOSIS.

The eradication of tuberculosis depends upon:

1. Acquiring control of the "open" cases and maintaining this control until the death of the patient.
2. In discovering incipient cases and preventing them from becoming "open" cases.

We have in Massachusetts two excellent laws calculated to facilitate control over open cases and the early discovery and efficient treatment of incipient cases.

The law relating to hospitals aims to secure control of tuberculosis cases in the dangerous stages by providing hospital care near their homes. A city or town may comply with this law in one of three ways:—

1. It may build a tuberculosis hospital.
2. It may make satisfactory arrangements with a neighboring hospital to care for its cases.
3. It may combine with one or more communities in building a joint hospital.

If this law is carried out so that the tuberculosis patients in the terminal months of their illness are cared for in hospitals, a further great reduction in the death rate may be expected.

The dispensary law provides that all cities and towns whose population exceeds 10,000 shall provide a proper tuberculosis dispensary, satisfactory to the State Department of Health.

It is unnecessary to make any argument in favor of the properly organized dispensary. Its utility is obvious in detecting incipient cases, in following up cured or arrested cases returned from sanatoria, and in advising and educating tuberculosis patients and their families in the prevention of the spread of the disease.

Both laws should be vigorously enforced, but there is less excuse for delay in the matter of the dispensaries because of the lesser expense involved.

TYPHOID FEVER.

The rates for typhoid fever have been reduced in Massachusetts from 45 in 1887 to 8 in 1912.

This probably means that water and milk have been almost eliminated as factors, and that we are facing the problem of getting rid of "residual" or "contact" typhoid. This is a very difficult task, as it depends upon the education of the individual. If all individuals considered themselves potential carriers of disease and cleansed their hands and finger nails frequently enough, thoroughly enough, and at the proper times, typhoid fever would disappear from our statistics and become a matter of history.

In this matter of educating the individual in personal hygiene and his duty to his neighbor, the practising physician can be of inestimable value.

I wish to accentuate one other possibility in reducing our typhoid fever rate, viz: anti-typhoid inoculation. This should be encouraged by the practising physician, especially for people who travel much, and patients contemplating vacations. The citizen at home is able to protect himself to some degree, but when travelling is at the mercy of cooks and waiters in hotels, and on boats and trains.

DIPHTHERIA.

The rate for diphtheria has been reduced enormously by the use of antitoxin.

Earlier diagnoses, a broader use of immunizing doses of antitoxin to the contacts, and larger doses to the patient will still further reduce these rates, and these are matters which are in the hands of the practising physician.

SYPHILIS.

Exact knowledge of the prevalence of syphilis is not available but it is known to be widespread. Its effects upon infant mortality, insanity, blindness, tabes and general paresis are well known.

We have exact knowledge, thanks to the laboratory, of its cause, modes of transmission, and prevention.

The story of laboratory achievement in syphilis in the past ten years reads like a fairy tale.

In 1903 Metchnikoff and Roux successfully transmitted syphilis to the lower animals.

In 1905 Schaudinn discovered the cause of the disease, the treponema pallidum.

In 1906, Wassermann, Neisser and Bruck gave us the Wassermann reaction, which enables us to detect even those cases without external symptoms.

In 1910, Ehrlich gave to the world salvarsan, a specific destroyer of the treponema.

In 1911, Noguchi grew the treponema pallidum in pure culture, outside the body, and produced luetin of great diagnostic aid in very obscure cases.

In 1913, Noguchi demonstrated treponema pallidum in the brain of patients with general paresis, and in the cord of tabetic patients.

In spite of this exact knowledge of the etiology, prevention and cure of syphilis, we are not able to say that this scourge is being reduced. One glaring defect must be corrected, if only partly. Statistics are lacking and they are no less necessary in this disease than in others, if an intelligent campaign is to be conducted against it. In this the practising physician can be of the greatest assistance. The State Department of Health will make syphilis a reportable disease within a short time. Physicians will report details of

each case, omitting the name of the patient, as is the practice in New York City.

Very valuable information can thus be secured and a definite comprehensive program outlined for reducing the prevalence of this disease.

Because of our lack of statistics of venereal diseases, we are unable to say definitely whether these diseases are increasing or decreasing. I do not believe that anyone is rash enough to say they are decreasing.

I regard the question of syphilis optimistically. We know the cause of the disease and we have specific spirochaeticides. We must have early diagnosis, prompt treatment and treatment with supervision sufficiently prolonged to ensure a real cure. We must cease dallying with dusting powders and iodides in our clinics and make salvarsan and mercury, properly applied, available to all.

The accomplishment of this rests with the practising physician, and the credit for the enormous reduction which will follow in locomotor ataxia, in general paresis, in insanity and in blindness, will also be his.

PNEUMONIA.

The statistics for pneumonia are rather indefinite. We have in our official records bronchopneumonia, lobar pneumonia and pneumonia undefined. In 1912, for instance, there were 5300 deaths under these three headings in Massachusetts, of which 2200, or 41%, were children under ten years of age; about 900 deaths, or 16%, were recorded as lobar pneumonia between twenty and fifty years of age. Another large group includes the deaths in persons between the ages of fifty and eighty.

The first group, children under ten, includes hundreds of cases following whooping cough, measles, and other "benign" diseases of childhood. Too often children with whooping cough are permitted to go to school, ride in street cars and go to theatres and other crowded places.

The pernicious belief that children must have such diseases should be combated and every effort made to protect young children from exposure.

The widespread distribution of pneumococci in healthy individuals suggests that the specific organism requires certain assistance in producing the disease. These other factors in its etiology are not clearly understood, although we may surmise that they act by lowering the natural resisting power of the individual. Prophylaxis is further complicated by the many varieties of pneumococci, and the fact that pneumonia is not a simple problem. We understand little of the mechanism of immunity in pneumonia.

It would seem that normal, healthy individuals have a natural immunity against lobar pneumonia, but that this immunity is rather feeble and easily impaired or destroyed. This is borne out by the fleeting character of the immunity produced by an acute attack.

For these reasons the development of efficient curative sera and of prophylactic inoculation is not very promising. The laboratory in the future will probably clear up the problem and give us the specifics which we need. In the meantime, cases of pneumonia should be treated as dangerous contagious diseases, the spread of which depends upon the secretions of the mouth and nose.

It seems certain that the natural immunity in normal healthy individuals may be nullified by dissipation, excesses and exposure to cold.

A cold shower and change to dry clothing would prevent many cases of pneumonia in miners, iron and steel workers, firemen, coal passers and many factory and mill workers. As a rule, however, these facilities are not available and the worker leaves the hot atmosphere of his work for the cold outer air in his perspiration-soaked garments.

A great many cases of pneumonia can be prevented by attention to personal hygiene, cold baths, living quarters not above 68° F., and cool sleeping rooms.

As teachers of personal hygiene, we must depend in greatest measure upon the practising physicians.

ORGANIC HEART DISEASE.

Two facts stand out prominently in the consideration of heart disease,—the large part it plays in our death rate and the fact that it is increasing instead of decreasing.

I realize that heart disease is an old acquaintance, but not usually considered a public health problem. Nevertheless, it is not so hopeless as generally believed, and in many cases it is a preventable disease.

Heart disease is not preventable to any great extent by official action, but a great many cases can be prevented by the wise counsel and activity of the practising physician who is thinking of preventive medicine.

Excluding congenital defects, a large percentage of deaths from organic heart disease up to the age of twenty years are preventable. A great many of these are due to what is called "rheumatism." We need more light on the etiology of rheumatism, but we are reasonably certain of the importance of diseased tonsils and pharyngeal tissue in its etiology. We also know the constant association of tonsillitis, rheumatism and damp insanitary housing conditions.

Examinations of school children reach a great many of these cases, but there is no reason why a great many more examinations of young children should not be made by the family physician without waiting for the tonsillitis or the rheumatism or the valvular lesion actually to manifest itself.

Advice should be freely given to prevent the delicate child from overstrain by sudden violent

exercise, without proper preparation, or by entering a vocation for which he is physically unfit.

Physical exercise is of the greatest value if the exercise is properly suited to the patient, but we have seen in Marathon races, entry permitted to ill nourished youths with no preliminary preparation whatever. Exercise these boys need, but certainly not that kind of exercise.

There is a class, however, which is in even greater need of advice than the ill nourished and underfed. It is the overfed man who has no time for exercise, but who works long hours at high pressure, with perhaps heavy responsibilities and many causes for worry. With proper insistence in these cases, many valuable lives could be saved for an additional twenty years of usefulness which are now lost between forty-five and fifty years of age.

CANCER.

Cancer is one of the big factors in our mortality, and like "heart disease," is increasing instead of decreasing.

While our knowledge of its etiology is somewhat obscure, we have enough knowledge, if properly applied, to reduce greatly its ravages.

Cancer is a preventable disease if discovered early and promptly operated upon. There are several reasons why early discovery and prompt action are the exception rather than the rule. The early lesion is painless and we are not looking for it. When it is found, dislike of a cutting operation results in palliatives and delay. In no other disease, perhaps, is procrastination followed by such appalling results.

We should be looking for cancer because when the patient seeks us, it is usually too late. We must look with suspicion upon bleeding piles and uterine hemorrhages, or breast tumors after middle life, or any sore or swelling on the lower lip or tongue.

In addition to acquiring the attitude of looking for cancer and advising immediate action, the physician should seek to prevent cancer by removing one of the contributory causes, namely, local irritation.

Irritation of the tongue from broken teeth or rough pipe stems often occurs, and if warts or moles are subject to irritation they should be removed.

We must not regard lightly gastritis and gastric ulcer. A great many cancers grow from the site of a neglected or imperfectly healed ulcer, and the seriousness of frequent attacks of indigestion should not be minimized.

In an ideal health organization the practising physicians must be considered as health officers. I believe the physician has a moral, if not a legal, obligation to discharge some of the duties of a health officer. He cannot restrict his activity to curative medicine, but must practice preventive medicine also.

In practising preventive medicine, like his brother, the health officer, he must not restrict his activities to communicable diseases alone, but must extend his efforts to the prevention of many diseases which, although not communicable, constitute great public health problems.

The physician's aid to the health department in quick and accurate diagnosis, and prompt reporting of cases is invaluable, but no less valuable assistance may be rendered by the physician as an educator.

I am sure that all practical health officers have found that the greatest defect in the average health organization has been the lack of a medium for carrying sanitary instructions into the home.

It matters little which disease or problem we may be considering, after the officials have eliminated all factors which are corrigible by official action, there remains always a group of factors which can be eliminated only by the enlightened coöperation of the individual families or of the individual members of those families.

Let us consider typhoid fever as an example. It is possible by official activity to install and maintain a safe water supply. It is possible to reduce the danger of infected milk to a minimum by official acts alone. In fact, if the eradication of typhoid fever depended upon the elimination of the water and milk factors alone, typhoid fever could be made to disappear from our statistics with comparative ease.

Unfortunately, after the water and milk factors are eliminated, there remains a group of factors responsible for what is called contact, or residual, typhoid, which is very difficult to reach. The only way these factors, including fingers, food, and flies, can be reached is by instruction in personal and family hygiene.

We do not "catch" typhoid, we "eat" it. That is, it is handed to us with our food or drink.

Transmission of disease by means of fingers and food is the method by which these diseases were perpetuated and handed down from remote ages to the present day. It was the method which perpetuated these diseases under primitive conditions when men lived in caves and huts, and when public water supplies and great milk industries did not exist. And today, whenever conditions approach the primitive, where poverty compels the overcrowding of filthy tenements, we find these factors most active in perpetuating disease.

To secure the instruction of such people, to raise their standard of personal hygiene, is the most difficult problem which today confronts the health officer. It is manifestly impossible for the health officer personally to educate all classes in a community in personal and family hygiene.

Printed literature is of great value, but does not solve the problem, which in most cases demands personal instruction for its solution.

The two most promising agencies for carrying the gospel of public health into the home are practising physicians and visiting nurses. I will not attempt to estimate the relative importance of these two agencies, but I desire to accentuate the opportunity for rendering a great public service which is here presented to the practising physician.

The function and value of the practising physician may be likened to the antibody in the patient's blood which brings the complement into relation with the invading organism. In the blood of a normal individual there is sufficient complement to destroy infection, but without the antibody it cannot reach, combine with, and destroy the infection.

So in a health department. The potentiality to eradicate disease as represented by knowledge of preventive medicine exists, but cannot be applied in the tenement or slum unless some combining influence is available to bring this knowledge into the home in a way that the ignorant can understand.

Let us have an application of the knowledge we possess, and utilize the specific remedies and prophylactics which the laboratory has given us.

Aid the health authorities to secure accurate statistics! Help to prevent epidemics and unnecessary spread of disease by prompt reporting of cases!

Prevent the spread of the diseases popularly supposed to be benign, as whooping cough, measles and influenza, but which are really responsible for hundreds of deaths.

Educate your patients in the necessity of right living. Show them the suicidal effect of overfeeding, lack of exercise, and living in overheated, ill-ventilated rooms. Try to prevent the national fault of running the machine at high speed and under high pressure all the time, without proper relaxation, rest and exercise. Do what you can also to correct another national fault, that of placing a square peg in a round hole. The ill-fed, narrow-chested youth who should be "punching cattle" should not be permitted, without protest, to stoop eight hours daily over an emery wheel.

In asking you to take this extraordinary interest in preventive medicine and hygiene, I am asking you in all probability to curtail your income from the practice of curative medicine. I doubt if such a request could safely be made of any other profession without fear of ridicule, or perhaps personal violence. To your credit be it spoken, I do not think I am in danger of either. I confidently expect that in the future, as in the past, the physicians of Massachusetts will recognize their moral obligation as health officers and teachers of preventive medicine, and continue to aid health officials in reducing death rates in the Commonwealth.

HOSPITAL EFFICIENCY FROM THE STANDPOINT OF THE EFFICIENCY EXPERT.*

By Frank B. Gilbreth, Providence, R. I.

In order to describe what an unprejudiced and trained observer in the field of waste elimination thinks of the hospital problem, and what method of attack upon it he would advocate, it is necessary to state what an efficiency expert does, and also to state what hospital efficiency is, from the standpoint of waste elimination.

An "efficiency expert," so called, is simply an engineer who substitutes accurate measurement for personal opinion, judgment, and unscientifically derived conclusions; who has devised units, methods, and devices of measurement that enable him to measure and compare the factors of results of problems that confront him. He comes with no ready made conclusions that are results of theory only, but comes, rather, with measuring means for comparing any performance with its plan. You, whatever your interest in the hospital problem, are primarily scientists. You are interested in facts, and the underlying laws the facts illustrate. All science is based on measurement. You know what we owe to science and measurement. The problem resolves itself into this:—How far has measurement been applied to hospital work, and how far have the results been taken as standards for practice; how can we consider the hospital as a factory; what methods of measuring efficiency in the manufacturing establishment are usable in a hospital?

In considering hospital efficiency, there are two questions which must be asked:—(1) "What does this factory, called a hospital, manufacture; what is the hospital's aim; and how is it attempting to attain this aim?" (2) "Are we getting the product as cheaply, as quickly, and in as large quantities as is possible?"

To consider the hospital in the most general terms, it must be considered as a "happiness factory." The hospital is subject to all the laws and processes of obtaining efficiency in the manufacturing establishment. The output of the hospital is "happiness minutes;" the aim of the hospital is to give the largest number of units of happiness to the most people, with the least expenditure of time, money, and effort,—or, in other words, with the least expenditure of energy possible.

We must think of this product, happiness, (1) as of the happiness of mankind as a whole—of the social group—(2) as of the individuals comprising the group. The happiness of the social group will be best gained when each individual in the group is happy, and when all are working together for the good of all. In the factory, this condition is called "hearty

* Abstract of paper read at a meeting of the Suffolk District Medical Society on January 6, 1915.

coöperation." It is one of the nine fundamental features of measured, functional management.

There is nothing corresponding to this in the management of any of the scores of hospitals that we have surveyed. The problem is not one of medicine or surgery. It is a problem of management. If you do not agree with me, I suggest that you write down what you think the purpose of a hospital is. It is not important that we agree, today, as to what the fundamental aim is. It is important that the aim be determined accurately.

The next question is, "Are we getting what we are aiming for?" Individual surgeons and hospital superintendents have said, "Yes." But if we are, have you so formulated your results that others may use them to transfer skill, and improve upward from the results of the most successful? If your hospital force is getting what it desires, how about the individuals comprising the group? Each individual is most efficient when he does what he can do best, and likes most, for the greatest percent of his time possible. The social group is most efficient when its every member has been assigned functionalized work.

No hospital has as yet submitted its aims and methods to accurate measurements. Most hospitals have not put that work which they have done in such form that it can be effectively used.

To apply accurate measurement,—first of all, apply the survey principle. Record *what* you are doing, *how*, and *why*. The first step in all improvement is an accurate record of present practice. But where is there such a record of hospital practice? We have been trying for three years to get some surgeon to write a detailed account of an operation.

The next step is applying measurement to the records. Such measurement is technical work. It demands an understanding of the fundamentals of management. The various tests which have been worked out, and which apply to capacity of all sorts, must be applied. The likenesses that underlie all lines of activity must be realized. It has been customary always to emphasize the difference between things. We look for likenesses as well as differences. The great fundamental, underlying all lines of activity, is the fact that it is human activity.

What we propose to you is that you learn to think in the industrial vocabulary,—to use industrial experience. The industrial world has been obliged, through economic pressure, to study waste elimination. It has derived underlying laws for attaining least waste, underlying methods for applying these laws, and an equipment of units, methods, and devices of measurement. You, with the greater need, education, field, and work of greater importance,—can gain results from measured functional management, the magnitude and far reaching effects, of which no industry could hope to equal.

You have but to see and accept the necessity for measurement. What has been done in the industries is at your service. You, as individuals, can take these results, and work at your own problems; but the big things demand coöperation. Functionalization, inspection, standardization, the right incentive, the proper teaching, the least fatigue, the greatest welfare,—these are the results. At the root of them all lies *Measurement*. Time study, motion study, the chronocyclegraph and micro-motion processes,—these are means of making measurements that lie ready to your hand. The great question to be answered is, "Shall we make the hospital a place fit for scientists to live and work in; shall we submit our work to measurement, and act on the results?"

HOSPITAL EFFICIENCY FROM THE STANDPOINT OF A HOSPITAL SURGEON.*

By R. L. Dickinson, M.D., F.A.C.S., Brooklyn, N. Y.

Capable of standardization are:—

1—The training and qualifications of the workmen and heads of departments—doctors and nurses—even trustees.
2—Tools and equipment.
3—The organization of the workshops—office and hospital and sanitarium.
4—The procedure.

Many of the factors are being worked out:—

1—A. Among professional men—
- *a* Preliminary education,
- *b* Medical education,
- *c* House staff service,
- *d* Dispensary service.
- *e* Assistance in hospital,
- *f* First assistant positions,
- *g* Heads of service or full attending,
- *h* Consultants.

B. Among nurses:
- *a* Training in school,
- *b* Training in hospital.
- *c* Training in operating room.
- *d* Training in social service.

But the status of the interne is chaotic: in one place he is a mere dresser; in another, he demands laparotomies—and with no more preparation; the attendings are responsible to no one; the consultants do not consult or advise or inspect; many trustees take it out in trusting. How many real advisory boards, like that of the Rockefeller, are in active existence? Among nurses why should peritoneums be risked to give

* Read at a meeting of the surgical section of the Suffolk District Medical Society on January 6, 1915.

every nurse a bare smattering of training to be head of an operating room, any more than house officers be given the impression they can do major surgery?

2—As to *tools,* we have not made a start to standardize such things as:—

a Form.—For example, with the needle why should the stitch ever slip out if the eye is wedge-shaped? Or why should a cutting edge needle ever be used except for skin or cervix? Or a flat portion, for grasping, be missing in needle holder?

b Material.—Why should some needles be brittle?

c Number.—Why should the group working in an operating room not agree on a few fixed forms and sizes?

d Name.—Why should not all operators call one tool by one name?

e Price.—Why not an average cost?

3—As in the organization of the workshops, whether it be the private office of the family practitioner, the group in an office building, the dispensary, the private hospital, the public hospital or the sanitarium, only the beginnings have been made for standardizing professional work. The appended references will give the clue to these beginnings and the outlines that follow are mere skeletons or samples of the kind of planning that is inevitable in the near future.

4—As to the procedure, there is no frequently repeated act in hospital work, from the taking of histories up to the team work in the gravest operation, that cannot be plotted out to standard made up from a study of the best methods, and printed on instruction cards. It goes without saying that adaptation is made to fit varying needs as, for instance, to the little hospital in a small town or the great public institution.

THE FIVE INEFFICIENCIES (IN PROFESSIONAL WORK).

1. *Lack of Time* given by staff because free hospital work is necessarily secondary to earning a living in all but exceptional cases.

   Remedy.—Requirement of fixed hours and quality of work, for salary; selection and promotion for merit; service continuous; ratings and reports on amount and character of product; assistants with some salary, and in sufficient numbers; senior resident a hospital graduate, remaining two or more years on salary.

2. *Lack of Organization.*

   Remedy. — Single-headed departments; small committees, held to strict responsibility; certain changes in allotment of functions or parts of the work, in accord with the ideas of "Scientific Management"; understudy for every position; associate in full charge two months of each year; long time team-work in operating room; short time internes to do only minor surgery.

3. *Lack of Instruction.* Nobody's business to see that men are drilled in technic and duties; no instruction cards.

   Remedy.—"Vorschrift" throughout, and definite methods and times of teaching and drilling younger men.

4. *Lack of Inspection.* No check on quality of work or end-results.

   Remedy.—Study of product, and delegation of one man (or several) to duty of frequent inspection and recording of details of technical work, and report of same to governing board.

5. *Lack of Publicity.* No bulletined errors; no available comparisons.

   Remedy.—Inspection, tabulation of successes and failures, study of end-results and ratings on work of each department and each individual, and publication of same, particularly in state and municipal institutions. Publication need not involve great bulk. An interval appendectomy with prompt healing takes but one line. Cases that do badly call for detail.

SUGGESTED FORM OF REPORT ON EFFICIENCY OF EACH MEMBER OF PROFESSIONAL STAFF.

Position held. Average No. of beds.

A. Quantity of work; months on duty; total visits required; total visits made; total hours given to hospital (or dispensary): vacation; illness; absences, excused, unexcused.
Estimated committee service.

B. Quality of work; (thoroughness, promptness, rapidity).

1. Preliminary examinations, consultations.
2. After-care, examinations for discharge, instructions to follow-on.
3. Histories, personal inspection, personal notes, reviews, studies on end-results.
4. Laboratory work, supervision, personal work.
5. Training of hospital staff, nurses, dispensary staff.
6. End-results (Codman methods); each individual's errors scored by
   - *a.* lack of technical skill;
   - *b.* lack of surgical judgment;
   - *c.* lack of care or equipment;
   - *d.* lack of diagnostic skill.

Failures grouped also by:
- *a.* patient's enfeebled condition;
- *b.* patients' unconquerable disease;
- *c.* patient's refusal of treatment, and by
- *d.* surgical calamities.

Methods; notes on full histories by chief; review by consultant or efficiency committee; summary of history by clerk; choice by staff of certain operations as tests (*e.g.* suppuration in clean laparotomies).

C. Personality; integrity; disinterested obedience to rules; team-play; kindness; cheerfulness; enthusiasm; and ability to inspire these.

D. Progressiveness; study of literature; travel to other clinics; membership and attendance at medical societies; originality; researches; publications.

E. Executive ability; initiative; originality; organizing power; control.

F. Teaching; staff, nurses, dispensary; students; public clinics.

G. Inspections; number, by trustees, consultants; hospital inspector. Certain defects to be heavily scored—such as lack of judgment. Percentage to be given under each heading to be determined. Positions differ. Some positions will have a score for executive work, and some for teaching and others will not. This will involve grouping and reporting such positions separately, but any man's abilities in the above matters should be noted, even if not marked on a score.

COMMITTEE FUNCTIONS.

Efficiency Committee, ECm. Member board of trustees, member of staff, superintendent; reviews of order of work, equipment, instruction, time and cost and results.

Professional Staff Committees. One man each, chief or associate; with substitute, one of younger men (except ward committee).

1. *House Staff,* HSCm. Finding internes, provision of instruction, report on quantity and quality of work done by each, but superintendent has executive control.
2. *Operating Room,* ORCm. Harmonizing and standardizing equipment, procedure, and lists (instruction cards).
3. *Ward,* WCm. Diets and drugs and formulae; nursing (instruction cards).
4. *Histories,* HCm. Also library; publications; standard nomenclature of diseases, injuries and operations; filing, indexing.
5. *Dispensary,* DCm. Professional relations and nomination, but dispensary has its own meetings, and joint clinics; its executive control under the assistant superintendent.

Planning.

a Committee on *Order of Work,* OWCm. May be chiefs from three main services, with superintendent and senior resident; chairman, chief surgeon.

b Committee on *Instruction Cards,* ICCm. May be five staff committee men, plus superintendent and senior resident; chairman, history committee man.

c Committee on *Discipline,* DCm. Same as OWCm. Chairman, superintendent.

DEFINITION OF DUTIES (SAMPLE).

Operating Room Committee. Symbol—ORCm.

TASK:—

a To gather ideas and information pertaining to equipment, routine, standard names of tools, in other clinics, and submit improvements to the surgical staff, with recommendations.

b To prepare, to submit to surgical staff, and when endorsed, enforce, for average conditions, a standard or minimum procedure, in sterilization, preparation for operation in general and for particular classes of operation, in team-work at operations, etc.

c To secure agreement among surgical staff as to standard equipment, (*e.g.* knives, sutures, and material).

d To order new equipment and repairs for O.R. outfit.

e To recommend to staff candidate as anesthetist and arrange for anesthesia.

f To oversee O.R. nurse's methods, cataloguing, entry in book.

g To arrange with instructor for drill in technic of the specialists, associates, and assistants.

PERSONNEL:—Member of surgical staff (preferably chief or associate); substitute to act in his absence, younger man on surgical staff.

METHODS:—

a Instruction of professional staff and house staff and O. R. nurse as to routine of O.R. (or deputizing same).

b Assignment of studies in O.R. technic to members of staff.

c Report to staff meetings (in writing, for annual report).

EQUIPMENT:—

a Operation book.

b Card catalogue of instruments, with cut of each, under standardized names.

c Standardized samples of needles, gut, etc.

In order to take up the whole subject of the efficiency of the hospital and its professional work in a far-reaching manner, which will prevent duplication of effort and provide for combination and coöperaion, the following would seem to be required:—

First, a *Central Board on Standards,* whose function it should be to collect information and sift it, to allot the parts of the great problems for investigation, to furnish means for some part of the necessary research, to publish the results, and in general to serve as a board of control. Such a board might well be a committee named by the American Medical Association in conjunction with the American College of Surgeons. Its various functions only experiment will determine, but travelling instructors with sample outfits and regular inspection may well become part of its extension work.

Second, *Experiment Stations.* These may be in a variety of locations and institutions, duly accredited, as in our best research laboratories that are connected with active clinics.

Third, a *Library.* This should be central, with branches and the utmost facility for loaning books—very much as the Surgeon-General's Library does it, or it might be a branch of this library.

Fourth, a *Museum of Standards.* This, too, should be central, as in Washington or Chicago, and should have certain facilities for loaning standard outfits.

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HOSPITAL EFFICIENCY FROM THE STANDPOINT OF HOSPITAL TRUSTEES.*

BY WALTER WESSELHOEFT, M.D., CAMBRIDGE, MASS.,

Trustee of the Massachusetts Homeopathic Hospital.

IN speaking as a trustee on the question of efficiency I must keep in mind the position so far held by the boards in relation to the hospital staffs. Their responsibility is for efficiency in administration, which is distinct from efficiency in the wards. This latter the trustees must take for granted. The people whom the trustees represent take it for granted. The question is, are the trustees in any way prepared to keep a watchful eye on the efficiency of the staffs? Is it called for and is it possible?

The trustees would be treading on very difficult and very delicate ground in case they were to propose new measures or methods. For it must be borne well in mind that the introduction of efficiency does not mean the introduction or control of the methods in use. It means much more. In point of fact it means the application of the *method of science to therapeutics*, in other words, to clinical research, and this means the methods for the *elimination of error and of comparative therapeutics.*

I believe that sooner or later the profession will wake up to the need of this reform; but for obvious reasons the trustees cannot be asked to introduce innovations of so far reaching and difficult a nature. If they can be made to see the importance of this method, and the results sure to follow in time, they will not fail to give it all the support in their power, but the first steps must come from the profession, and it must be made plain that they include no courses of idle individual experimentation.

Certain features, I believe, might be established with comparatively little difficulty or expense, and it is this latter which the trustees have to watch over with care. It might be practicable to institute means for determining *end results.* Accurate records and certain extensions of the social service, a part of many hospitals, might accomplish this. In surgery with its allied branches, early results might be made to appear.

In internal medicine, however, the difficulties would be infinitely greater. Here we are confronted at the outset by the fact that diseases recover under all sorts of treatment, that they recover under no treatment at all, and that they terminate fatally under the best treatment, or that which is accepted as best by any individual party or school. Again, the present methods for meeting our responsibilities have been fitly described, not so long ago, "as a jumble of contradictory rules and expedients originating in part in shallow and illogical generalizations and in part in crudest empiricism."

These two propositions placed in juxtaposition constitute a chaos out of which no board of trustees can extricate us. There is but the one remedy in sight, the framing of rigid rules and their *faithful observance* both of *control* and record, to which should be added *continued service.* By these means many errors might be eliminated, many a doubtful course replaced by a better one and the rising generation drilled in the art of observation which now leaves much to be desired. It would mean a mighty reform in therapeutics and by the comparative method, minimize the effects of the personal equation of the individual physician, and establish in time the merits of old and new methods. The scientific method, that based upon the fundamental principles of science, is no mere generality. It is the sole umpire between opposing measures and methods. So long as doctors differ (and in our hospitals as elsewhere, they will always claim the right to do their best in their own way) there must be found a way of differentiating the better from the good and the good from the bad.

It would lead one too far to enter upon a discussion of details. These must come from other quarters. There can be little question that a reform to which the profession is ready to devote its energies must succeed.

Let me briefly add a further reason why in time this reform should succeed. Here in your security, where you are constantly listening to the best that can be brought before you, you are apt to forget that with all your power and influence, you and we, as trustees, represent only a part of the people; that a very large portion of them are left as free to form an opinion on medical subjects as they may on subjects of religion. Conse-

* Read at a meeting of the Surgical Section of the Suffolk District Medical Society, on January 6, 1915.

quently before the law we occupy no other position than that of other systems, theories and methods not recognized by the profession. The law-making powers are willing to grant your prestige and preëminence and are willing to give you a free hand in matters pertaining to the public health, but you know them to be quite as willing to bestow their favors as generously upon any body of practitioners coming before them to demand a charter or claiming miraculous powers of healing. This is the infinite advantage of a free country, but it throws a double responsibility upon the profession.

Original Articles.

THE RESPONSIBILITY OF THE GENERAL PRACTITIONER FOR THE CARE AND SUPERVISION OF THE DISCHARGED SANATORIUM PATIENT.

By John B. Hawes, 2d, M.D., Boston.

In considering how far the general practitioner should hold himself responsible for the care and supervision of discharged sanatorium patients, I am assuming at the outset that every tuberculosis patient at some time or other should have the training that the sanatorium alone can give. Although Dr. Charles L. Minor of Asheville and Dr. Joseph H. Pratt of Boston have done much to show us what real home treatment is and what it can accomplish, most of us feel that home treatment should never take the place of sanatorium treatment except in the rarest of instances. In many states, far too many, unfortunately, home treatment is the consumptive's only resource; in Massachusetts, however, this is not so. Although there are not yet in this state as many beds as there should be, there are enough so that nearly every patient who needs, and who seriously desires sanatorium treatment can get it. It is true that often the patient has to wait one, two or three months or longer before admission, which is, of course, a serious obstacle to effective treatment of early cases. If this interval, short or long, can be bridged over, the patient can be sure of receiving high class sanatorium treatment at little or no cost and, with the exception of Rutland, for as long as he chooses to remain at the sanatorium. There are about 3000 beds for consumptives in Massachusetts; of these, nearly 1000 are in our state sanatoria, 750 in other state institutions, about 1000 are in local tuberculosis hospitals, and 250 are in private sanatoria and hospitals. At Rutland we can accommodate all the incipient and early cases who apply. By a new arrangement, whereby each patient entering this institution is placed on a month's probation as it were, to determine whether or not he or she is really an incipient or favorable case, we expect to greatly increase the percentage of early cases at this institution. Last year the proportion of incipient cases was 37%, the largest in the history of Rutland. Of special importance, we hope to reduce the time that patients now have to wait after applying and before admission. While we still take many far advanced patients at North Reading, Lakeville, and Westfield, we hope, as the number of local hospitals increases that these institutions, too, will be used to a far greater extent than now in caring for those patients who, if not incipient, are at least only moderately advanced and are favorable for marked improvement or arrest. The incorrigible consumptive still presents a most difficult problem. It is one, however, that must be settled in most instances by local and not state authorities.

At the present time there is a strong feeling prevalent, not only in this country, but in Europe that the sanatorium and the sanatorium treatment of consumption is on trial; that it has not proved the great success and brought about the results which we hoped that it would. Literature is filled with articles bearing the titles, "Are Sanatoria Worth While?", "Home versus Sanatorium Treatment," etc. This is a situation which we must face; the reasons for this doubt and mistrust must be clearly analyzed and understood by all if we hope to improve the situation.

I believe the great and fundamental reason why there is a growing doubt in the minds of the public and the medical profession that the sanatoria have not turned out to be all that they should, is because of the lack of early diagnosis and aggressive treatment on the part of the medical profession. The early diagnosis of tuberculosis, however, and the reasons for the lack of such diagnosis, is a subject far too large to be considered within the scope of this article.

The other great reason for this state of affairs is because the average general practitioner has not realized sufficiently clearly that his duty toward his patient is not ended when he has escorted him safely within the doors of a tuberculosis hospital or sanatorium. He does not realize that the time spent at the sanatorium is merely preliminary to years of faithful treatment on the part of the patient and constant and wise supervision on the part of the doctor after the patient leaves the sanatorium. If every general practitioner would only realize this, and constantly remember that the time spent by the patient at a sanatorium or health resort is simply an incident in his course of treatment, the important part of which must come during later years, our results would be far better. It is the constant throng of patients who have relapsed and who make re-application for admission to our institutions, generally in a worse condition than they were before, which makes not only them and their relatives, but the

general public, ask what good has the sanatorium done in their case. It is very true that much of the blame for this state of affairs rests with the patients themselves. A certain part of it, however, we members of the medical profession must assume. The sooner we assume it and take steps to correct it, the quicker will the public follow in our footsteps. At the present time it seems to me that the State as such is going as far as it well can under existing conditions in looking after its discharged sanatorium patients. Our present system, already familiar perhaps to many of you, is somewhat as follows:—

On receiving a patient's application at the Boston office, the physician is at once notified as to the sanatorium to which his patient is to be sent. On admission to the sanatorium some time later, the physician and the local board of health are again notified. Finally, on discharge from the sanatorium, the physician is written a personal letter giving in considerable detail the patient's present condition with advice for the future. The two following letters were taken at random from our files:—

"March 20, 1913.

"My dear doctor: E. C. was admitted to the Rutland State Sanatorium December 9, 1912, on an application made out at the Boston Consumptives' Hospital. He was discharged March 19, 1913.

"He was admitted as an incipient case of pulmonary tuberculosis, and was discharged with the disease 'arrested.' At the time of admission there was slight dulness to the third interspace, at the top of the right lung, and a few fine râles, both front and back. At the time of discharge there was suspicious dulness at the apex, but no râles were heard. The patient seemed to be in excellent physical condition, and I believe he will be able to take up some clerical work, such as he had been doing, and if he uses reasonable precautions he will probably be able to live very well in Boston.

"I advised him to return to your clinic to be examined occasionally."

"July 3, 1913.

"Dear Doctor: This is to inform you that Mr. J. B., admitted to this sanatorium July 1, two days ago, absconded at 7 a.m. today. He is a 'moderately advanced' case of pulmonary tuberculosis, expectorating about two ounces of sputum per twenty-four hours, in which tubercle bacilli are exceedingly abundant. He has vesperal fever and other signs of marked disease activity.

"As far as can be learned, this patient said that he left the institution because he did not like it here. He told the patients that he wanted to get out to celebrate over the Fourth.

"This patient has not been in the institution long enough to show any improvement, but he has shown that he needs treatment immediately, and isolation from healthy people, as he is, no doubt, a very infectious case."

Copies of such letters are sent to the local board of health, the local anti-tuberculosis association, if such there be, the state board of health, and to this office. Within the course of a few weeks after discharge, this patient is visited by Miss Billings, our nurse engaged in this after-care work. Miss Billings makes a detailed report of the patient's condition, surroundings, family, occupation, etc.; and of still more importance, whenever possible, becomes a friend of the family, personally interested in the patient's affairs, and not merely a paid emissary of the state. In addition to this, she sees the local visiting nurse or someone connected with the local board of health, or the patient's physician, if such there be, and makes suggestions as to future needs. Some months later another visit is made if necessary. Whenever possible, Miss Billings gets in touch with the local nurse or tuberculosis worker and turns this work over to her. This is as it should be, for, after all, it must be realized that tuberculosis is a local problem, one which commences and ends at home.

I do not see how the state can go further than it is now doing, as I have described above. The burden of the rest of the work must be assumed, first by the local boards of health, tuberculosis societies and dispensaries, and last, I believe, of still more importance, by the general practitioner.

Local boards of health are not yet doing all that they should in this matter. While the advisability of forcing every city and town which comes under the terms of the "Isolation Hospital Act" of 1910 to build a local tuberculosis hospital may be open to debate, there is absolutely no question as to the wisdom of the law requiring towns and cities of 10,000 inhabitants or over to maintain a tuberculosis dispensary. I have every reason to believe that our present state health commissioner is to take immediate and urgent measures to see that this law is enforced and that dispensaries coming up to a certain standard are established in every town or city coming under this act.

The establishment of such dispensaries will greatly increase the efficiency of this after-care work that Miss Billings is doing and will lead to far closer coöperation than now exists between state and municipality. To be really effective, however, every doctor should aim to do for his own private patients exactly the kind of work that is accomplished by a properly run dispensary. In other words, he must not only diagnose tuberculosis in its early stages, and steer the patient to a hospital or sanatorium, but he must look after the patients when they return from the sanatorium.

We believe that this after-care work of Miss Billings has accomplished a great deal during the last two or three years that she has been in our employ. The number of people over whom the influence of this after-care work extends is far greater than the actual number of patients whom she visits. For instance, between July, 1912, and October, 1913, a period of fifteen months, Miss Billings visited 600 patients. These 600 patients, however, had exposed 2601 others; 23% of these were examined for tuber-

culosis, and of these 12½% were found to have consumption. The first 200 patients in this group, whom she visited early in her work, beginning in July, 1912, had exposed 871 others. Of these it was found that 20% had been examined and that 14% had consumption. While the last 200 patients whom she visited up to October, 1913, had exposed about the same number of others, 824, Miss Billings found that 30% had been examined for signs of tuberculosis, instead of 20% in the first group, and that only 5% were found to have consumption, in place of 14% in the earlier group. This improvement, though slight, is certainly encouraging.

Every physician will at once ask, "How am I to get hold of my patients after they are discharged from the state sanatoria if of their own accord they do not choose to come to me?" I believe that the medical profession must do away with a certain amount of false pride which it now has in seeking out these patients. I believe that the time is at hand when doctors should do more than wait until these patients come of their own accord to their offices, and that they must take some active steps to see that their discharged patients report soon after their discharge and continue to report later on as often as is considered necessary. This certainly is in accord with the attitude of the life insurance companies, certain of which are now demanding that their policy holders be examined once or twice a year regularly, whether they are sick or not. As a general thing, I think that the average tuberculous patient on discharge from any sanatorium should report at once to his local physician, once a month regularly for at least six months, and once every three or four months for two or three years afterwards. I demand this of all my private patients. If this were done as a routine and the need for it explained to the patient, I am sure it would be one of the best investments ever made, not only by the patient himself, but by the state of Massachusetts.

Miss Billings has given me some interesting figures on this subject, based on a study of 100 patients having family physicians, taken at random from those she has visited from July, 1912, to December, 1914. Of these 100 patients, she found that 46 had been examined by their physician on their return, and that 54 had never been so examined. Of the 46 who were examined, 32 saw a physician within the first month after discharge, and 14 later on. Of the 54 who did not see a physician, 22 did not do so because of ignorance or because they did not think it worth while; 22 did not go to see a doctor because they were waiting for some symptoms to arise to make it necessary. These 22 represent the large class of the public who apparently feel that it is better to wait until they are actually sick before seeing a physician, instead of using his services in order to keep from becoming sick. Ten of the 54 patients did not go to their doctors because of lack of funds. Miss Billings has further subdivided these 100 patients into two groups, the first consisting of 50 patients visited early in 1912, and the second 50 composed of those visited late in 1914. The comparative figures are of interest. Of the first group which she saw early in 1912, 17, or 34%, were examined by a private physician after their discharge; 25% of these, within the first month after discharge, and 8% later on. Of those who did not go to see a doctor, 48% were awaiting symptoms, in 18% it was on account of ignorance, while in no instance was lack of money the reason for not consulting a physician. In the last group of patients whom Miss Billings saw late in 1914, 29, or 58%, were examined by their private physician, and of these 38% within the first month after discharge. Of the 21 patients who did not see a doctor, in only 9, or 18%, was ignorance the reason. In only 4 instances did the patient give as his reason for not being examined, the fact that he had no symptoms; while 10, or 20%, gave financial difficulties as the cause of their not consulting a doctor.

TABLE I.

Fifty Patients Visited in 1912.

Examined by a private physician		17—34%
Patients examined during first month after discharge.....	13—26%	
Patients examined after the first month after discharge.....	4— 8%	
Of patients who did not see physicians there were.....		33—66%
Awaiting symptoms.....	24—48%	
Ignorance	9—18%	
Financial difficulties	0— 0%	
Total		50—100%

TABLE II.

Fifty Patients Visited in 1914.

Examined by a private physician		29—58%
Patients examined during first month after discharge.....	19—38%	
Patients examined after first month after discharge.....	10—20%	
Of patients who did not see physicians there were.....		21—42%
Awaiting symptoms	2— 4%	
Ignorance	8—18%	
Financial difficulties	10—20%	
Total		50—100%

The difference in the figures given in these two groups of cases is marked and shows a most encouraging improvement. Of course it must be realized that the patients whom Miss Billings visits are only a small group of the whole number of consumptives in this state.

This after-care work which Miss Billings is doing should be carried on in every community by nurses, dispensaries, and private physicians. In no instances should lack of funds be an adequate reason for the patients not being exam-

ined. Ignorance as a cause for such lack of supervision and advice after leaving a sanatorium, must be combated by an educational campaign and everywhere the general public must be made to realize that it is far better to spend a little money to prevent sickness than it is to wait until some disease gets a firm grip on the system before consulting a physician.

I feel that the public, as a result of our own efforts, is apt to think too lightly of tuberculosis and to regard it as too easily curable. Ten or fifteen years ago, when Massachusetts was making its first efforts to stamp out tuberculosis, we used the slogan "tuberculosis is curable." This was necessary in order to do away with the pessimism which the name "consumption" had hitherto inspired. At present I feel that we have gone a little too far, and that we must qualify this statement and impress upon the public and upon our patients, that while tuberculosis is curable, it is the most chronic of all chronic diseases; that it is rarely curable in any period under one year, and that the term "arrest" rather than "cure" is a far wiser one to use. It would be an excellent thing if every doctor in this state would impress this point of view upon his patients.

Finally, then, the important points to be borne in mind in regard to this subject are:—

1. Every tuberculous patient at some time or other needs sanatorium treatment.
2. The doctor's responsibility for his patient does not end as soon as he has safely conducted him within the doors of a sanatorium or other institution.
3. The important period in the treatment of the average case of pulmonary tuberculosis is after the patient has left the sanatorium.
4. The medical profession, either by means of dispensaries or other similar agencies, or in their private practice, must *seek out* their discharged sanatorium patients and see that they are under proper supervision and control.
5. Every doctor should play a part in a broad educational campaign to impress upon the public the need of such supervision and control.

TUBERCULOSIS OF THE THROAT.

BY ALBERT C. GETCHELL, M.D., WORCESTER, MASS.,

Consulting Laryngologist of the Massachusetts State Sanatoria.

THIS paper is mainly a report of the work of the four Massachusetts State Sanatoria for the year 1914. It has taken this form because the material is too abundant to be properly handled in the space allowed for it in the regular yearly report of the Sanatoria, and because in this manner the results of our experience there may be of most use to the medical profession.

The resident physicians of the sanatoria have examined the throats of all the patients under their charge and have recorded the results of these examinations. They have conducted treatment and have done such operations as, under the supervision of the superintendents, they felt competent to do. I have visited each institution regularly for the purpose of supervising the work, for consultation in individual cases and for such operations as were needed. I have also visited them at other times for special cases.

The cases may be divided into two classes, those at Rutland which in the main are earlier cases, and those at the other three sanatoria which embrace cases in all stages, the advanced cases preponderating. It is to be noted that while it is the policy of the management of the sanatoria to reserve Rutland for early and favorable cases it has not been possible hitherto to completely do this. Not only do advanced cases obtain admission but other cases become advanced while there and up to this time several of these cases have remained in the institution.

At Rutland out of 825 patients treated during the year 38 or about 4% had tubercular involvement of the throat, in all cases the process being limited to the larynx or epiglottis. The epiglottis was involved in 7 cases.

At North Reading out of 522 patients treated 39 had throat involvement; at Lakeville out of 725 treated 85 had throat tuberculosis; while at Westfield only 15 cases out of 488 treated had throat disease, this small proportion at Westfied being due to the fact that of this 488 treated 207 were under 16 years of age, not one of whom had any tubercular throat lesion. With the exception of the children at Westfield all these patients were of the same class and so they may be grouped together.

Of 1488 patients treated at North Reading, Lakeville and Westfield, 139 or about 9% had tuberculosis of the throat, of these 23 had involvement of the epiglottis and 6 of the pharynx.

Of the *Westfield* cases 1 improved, 7 remained stationary and 7 died.

Of the *Lakeville* cases 23 improved, 19 were unimproved and 23 died.

Of the *North Reading* cases 9 made substantial improvement, 18 were unimproved and 12 died.

Of the *Rutland* cases 24 either entirely recovered or showed marked improvement, 5 were stationary, 5 were recorded as progressive and 4 died.

Generally speaking, these figures show that tubercular involvement of the throat is a terminal stage of pulmonary tuberculosis, for in no case was a throat lesion found where there was not previous pulmonary disease. But this is by no means universally true, for laryngeal involvement may occur in any stage of the disease. It might be noted here that of 1180 patients who have come under my observation at the tuberculosis clinic at the Worcester City Hospital I

have noted 60 cases of probable tubercular laryngitis. It is to be observed that these were not all tubercular persons but were those who came for examination for suspected tubercular disease.

That marked tubercular involvement of the larynx is not incompatible with prolongation of life is shown by one patient at Westfield. This man is now 60 years of age. In 1904 he was operated on twice at the Massachusetts General Hospital, once for removal of an interarytenoid growth and once for removal of the right arytenoid. Tubercle bacilli were then found in his sputum. Now he has extensive involvement of the left side of the larynx—arytenoid and ventricular band—of a rather dense whitish variety. It does not have the edematous look of active tubercular disease but more of the chronic type. He is now in a fairly good state of health, and as he is a good gardener, Dr. Chadwick is counting on his valuable services in next spring's work.

DIAGNOSIS.

How can we determine the existence of tubercular laryngitis? No symptom is proof positive of it. Hoarseness or pain occurring in a tubercular person is strong presumption of tuberculosis of the larynx but both these symptoms may be present and due to other causes. On the other hand tubercular disease may be present in the larynx and both these symptoms be absent. Positive proof is found only by direct inspection of the larynx. Limited or general infiltration of laryngeal tissues with or without loss of tissue, ulceration, in a tubercular person is proof of the tubercular involvement of the larynx, always bearing in mind the possibility of the co-existence of syphilis. Exception should be made for that irregular papillary thickening between the arytenoids which persists for indefinite periods with no change and also bilateral enlargement of the ventricular bands, not of one band, however, which is probably always tubercular.

I would again like to record our experience that tubercular invasion of the larynx is not accompanied with pallor but on the other hand with redness.

TREATMENT.

The treatment of throat tuberculosis is par excellence what is known as "sanatorium treatment." Tuberculosis of the larynx is a local manifestation of a disease process, more or less widely spread, and always, in our experience, preceded by and associated with disease of the lungs and at times of other organs of the body. Improvement of the local condition is dependent upon the same factors which bring about improvement in the general condition. Local treatment has its value but it must be applied with careful consideration of general as well as local conditions for it may defeat its own ends, not only increasing the local activity but also adding a too heavy burden to the already overtaxed system.

To formulate our ideas into a working scheme of treatment we divide the disease into three classes: (1) those cases where the larynx is invaded by disease which is also active and progressive in the lungs; (2) those cases where the larynx is involved but the lung lesion is either stationary or moderately progressive, and (3) those cases of terminal disease in which both laryngeal and lung conditions are actively and disastrously progressive. In all cases rest of the larynx as complete as possible is of prime importance.

The Rutland doctors note in the description of their cases "absolute silence" which they are pretty well able to carry out because the patients expect to get well and the whole regime of the institution is based on that idea and so the co-operation of the patient is willing and constant.

In cases of the second class the remedy is as important but more difficult to apply, because the patients feel pretty well but also because as a class they are not so hopeful of ultimate cure, and have not the stamina to put themselves to the inconvenience of enforced silence. Thus Dr. MacCorison at North Reading says "Resting the throat so far as voice is concerned seems to be the most efficient remedy but the most difficult to get patients to carry out. Excessive use of tobacco, with or without fire, has its deleterious effect upon tubercular throats."

In cases of the third class, patients are too sick to talk and moreover talking is apt to be so painful that they voluntarily desist.

In local treatment many medicinal agents have been used, viz.: Dobell's solution, Dobell's with formalin, Dobell's with rose water, steam inhalations of eucalyptol, tincture of benzoin and menthol; argyrol 5% to 10% as spray or application; formalin 1-8%; liquid petrolatum; liquid petrolatum with menthol; lactic acid; Lake's mixture; scarlet red 2% in oil; intratracheal injections of guaiacol, menthol in olive oil, guaiacol, eucalyptol, menthol in saturated solution of idodoform in ether; orthoform; heroin 2% solution; cocain 2% solution; novocain 5% solution; tuberculin; injections into the superior laryngeal nerve of alcohol 8%; or of eucain 2 grains in one ounce alcohol 80%; or of quinine and urea hydrochloride; also ice bags and counter irritants to the outside of the throat and surgical measures designed to destroy or remove diseased tissue, such as galvano-cautery and cutting out of tissues.

It will be seen that many of these agents apply to any form of laryngitis, specific or non-specific, so that in our summary of what we find distinctly useful in tubercular disease we will leave out such.

It is a matter of first importance to keep the larynx clean and free from sticky mucus and

for this purpose we have found nothing better than Dobell's solution. Dr. Lyon, at Rutland, combines rose water with this in the proportion of one drachm to four ounces. Lactic acid and formalin still hold their place for their action upon tubercular ulcers. They are combined in Lake's mixture which consists of formalin, 7 parts; lactic acid, 50 parts; glycerine, 20 parts; water to 100 parts. Menthol in liquid petrolatum, five grains to the ounce, makes a soothing spray and Dr. Burns finds liquid petrolatum freely used very useful in extensive pharyngeal and laryngeal ulcerations. In cases where the trachea is inflamed and especially when it is covered with sticky mucus, intrachel injections are of great value; guaiacol 80 minims, menthol 80 grains, sterilized oil one ounce or guaiacol 9 parts, eucalyptol 2 parts, menthol 1 part in a saturated solution of iodoform in ether up to 100 parts as used by Dr. Lyon.

Tuberculin is used in all of the sanatoria. It has no special efficacy in throat cases.

Pain we have not found to be an important symptom unless the epiglottis is involved and then it may be very distressing. For this we have used orthoform lozenges, a spray of 2% solution of cocaine before eating or a tablet triturate of cocaine, 1/12 grain laid on the back of the tongue. In extensive involment of the larynx and epiglottis with ulceration I have found this powder useful,—paraformaldehyde 1 drachm; orthoform, 1 drachm; compound stearate of zinc 48 grains; cocaine, 10 grains, and sulphate of morphia, 10 grains.

We have used the method of injections into the superior laryngeal nerve with varying success but with enough success to encourage its further use. When we consider the small size of the nerve and how loosely it lies in the tissues it is manifestly difficult to hit it every time, so that it is a procedure where increased experience peculiarly gives greater guaranty of success. The technic is as follows,—after the skin has been properly prepared, to search with pressure of the finger for the spot under which the nerve lies. In a certain number of cases this may be determined by eliciting pain which appears to run toward and to the ear. While it is difficult to locate the exact point in persons suffering from laryngeal disease it can be done upon well persons more readily, so that it is useful to attempt to locate it either upon one's own self or on the throats of friends by pressing above the thyroid cartilage in the space between it and the hyoid bone. In this way one can get approximately the point of entrance of the needle which is plunged into the tissues about one-half a centimeter and a drop or two of the solution expelled. If the right spot is reached the pain running to the ear is evident and then the contents of the syringe is slowly injected although before the syringe is emptied the pain to the ear should disappear.

At North Reading the eucaine and alcohol mixture was used; one patient had five injections, two of 1 c.c. and three of 2 c.c. Relief followed the first three injections and a repetition was requested but no relief followed the last two. They were done October 9, November 5, 11, 24, and 25; the last note was that patient was in very poor condition but complained little of throat discomfort. Another injection was given December 7; there was considerable relief for a few days but the patient died on January 6. Still another patient was injected on December 7; there immediately followed an increase of subjective symptoms which subsided after a few hours. On December 12 a note stated that the symptoms remained unchanged. On January 15, however, that there had been relief of pain lasting two weeks; the patient died on January 20.

Dr. Chadwick, at Westfield, had, I believe, a similar experience; the symptoms were increased after the injection but later passed away and the relief was sustained for a considerable period. So also did Dr. Lyon at Rutland whose note reads "Injection of 1 c.c. of 80% alcohol in superior laryngeal nerve causing extreme pain extending over a period of four days following which the larynx became completely anesthetized for several weeks." In another patient of Dr. Lyon the injection of 1 c.c. was followed by aggravation of the symptoms for a week. Then 2.5 c.c. of quinine and urea hydrochloride was injected which was followed by complete relief which was maintained for a long period. In still another patient a similar happy result followed, a terminal case which had been unable to swallow without pain for a long time; in this case 2 c.c. of this solution was used.

Dr. Howes, at Rutland, had a similar case: "After injection of 1 c.c. 50% alcohol pain ceased for about an hour and then returned with increased severity. Injection of 1½ c.c. quinine and urea hydrochloride resulted in diminution of the pain."

I might add a case I have had recently at the Worcester Tuberculosis Hospital, a terminal case with extensive lung disease; the larynx and epiglottis were much diseased and there was ulceration in each tonsil. Injection of 1½ c.c. 80% alcohol was followed by relief of the pain and the patient said that what I did "opened up his throat." The relief from pain was maintained until his death several days after the injection.

OPERATIONS ON THE EPIGLOTTIS.

We have operated on the epiglottis four times, to which I desire to add one case occurring in my private practice. Of these Dr. Lyon performed one while I did the other four. Four were complete removal of the epiglottis and one was partial removal of the epiglottis under local anesthesia with the angular punch forceps.

The first operation was on a Rutland patient; a man, 46 years; an ambulant case; the lung condi-

tion was noted as being progressive. There was a tubercular ulceration on one side of the epiglottis and pain on swallowing. On April 27, 1914, I removed the diseased tissue, cutting well into healthy tissue and removing one-half of the epiglottis. Subsequent notes "complete healing followed; all pain disappeared; no recurrence." I have recently seen him and the last statement holds.

The second case was a Westfield case; man about 35; admitted April 9; epiglottis badly swollen; arytenoids injected and swollen; right cord irregular in outline, probably tubercular deposits; marked pain and hoarseness; upper half of both lungs involved; general condition poor. Local anesthetics gave but little relief. Alcohol injections gave considerable relief for about 12 days. I removed the epiglottis on May 30. There was immediate and complete relief which lasted a month when the disease appeared in the pharynx. He died August 8.

The third case was a North Reading patient; admitted May 6, 1914; advanced, bilateral lung disease; left side densely infiltrated; bed case; the epiglottis was infiltrated and there was much pain. The operation was done June 14 and the notes say that there was considerable relief. The patient died September 30.

Dr. Lyon's case was an out-patient at the Rutland Sanatorium; a man of 21 years; lung condition moderately advanced and not actively progressive; epiglottis much involved, also right arytenoid; pain on swallowing very severe. Injection of 1 c.c. 80% alcohol caused marked increase of symptoms; injection of quinine and urea hydrochloride 2-2½ c.c. gave entire relief of pain. After this, on November 15, the epiglottis was removed. At first the patient had some difficulty in swallowing, owing to the absence of the epiglottis, but this soon passed away. At first he was much relieved of his symptoms and he returned to his home in Springfield to await admission to Westfield. February 9, 1915, he was having much pain and difficulty in swallowing and was not likely to live long.

The case that occurred in private practice was of especial interest in showing how pulmonary and laryngeal disease could progress without definite symptoms. Man, married, 53 years, a gardener. He came to me from a neighboring town 12 miles away for sore throat, no lung trouble being suspected by his physician. He said he had always been well except that he had "winter cough" for several years which he did not think of importance enough to see a doctor. When he was 25 his father died of hemorrhage of the lungs. He had worked at his occupation up to two weeks before the time he consulted me. The epiglottis was extensively infiltrated and ulcerated. On careful physical examination pulmonary disease of moderate extent and intensity could be made out in both lungs. Pulse 96, temperature 98.8, loss of weight from 140 to 122 pounds. Considering his previous and recent good health and moderate lung involvement I thought the removal of the epiglottis worth while in hopes that he might be able to eat better and so regain some health and strength. Accordingly, on March 30, I removed the epiglottis. Pathological examination proved the disease to be tubercular. Only moderate relief followed the operation. When the epiglottis was out of the way the larynx was found to be extensively involved. June 8 he was able to come in to see me but was in wretched condition. He died August 15.

It is pretty hard to define any general rule for procedure in these cases. In a general way our experience teaches that when the epiglottis is involved to a limited degree, especially if the lesion is nearer the tip than the base, if the larynx is not involved or to limited extent, and the patient is in fairly good condition then the operation is clearly indicated. It will be noted that one of the patients of this group has at the end of ten months no sign of recurrence and for that period has not only escaped the danger of the extension of the local disease but has been relieved of suffering and inability to take sufficient food on account of pain. The Westfield patient was very grateful for the relief the operation brought and was glad he had it done.

GALVANO-CAUTERY.

I have employed this agent in two cases

CASE 1. A Westfield patient admitted December 26, 1912. April 20, 1914, left ventricular band injected and swollen, also left arytenoid. May 3 left ventricular band much more swollen than any other part of the larynx. Slight pain and huskiness. Right lung involved throughout: one-half of left; general condition good. I made four applications of galvano-cautery by the indirect method at about three weeks intervals. Result—on September 29, throat feels better, voice clearer, swelling less marked, general condition improved.

CASE 2. A Rutland case; man, age 42; pulmonary disease quiescent. Papillary growth on the posterior end of left vocal cord which was treated for several weeks with no benefit; then galvano-cautery was applied; after three applications the cord cleared up but a similar growth appeared on the right cord at point of contact during pronation; same treatment with like results; up to the present time the growths have not recurred and except for a slight roughening the cords appear normal.

I think that this treatment is worthy of wider application. Unfortunately, as yet, we have not been able to get a suitable apparatus for galvano-cautery adapted to the form of electricity in use at the sanatoria and both these patients came to my office for treatment. When we do get it we should have a fuller experience to report.

RÔLE OF THE TONSILS.

The rôle of the tonsils in the infection of tuberculosis is an interesting subject which we have tried to study from a clinical side, namely in examinations of patients to note the presence of tonsils, also the frequency of any apparent disease in them or the history of past trouble. I have also studied this question carefully in the tuberculosis clinic at the Worcester City Hospital and in private practice. We feel that the tonsils are not the definite factors in the infection of tuberculosis that they are by some thought to be. As at Westfield there is a group of children, I asked Dr. Chadwick to make a statement on this subject and the following is a copy of his letter.

"I have had the children's records looked up and some of those who have been discharged; altogether 131 patients under 16 years of age.

We find that 87 of this number show no abnormal condition of the throat; 21 have large tonsils, 23 slightly or moderately enlarged tonsils. Six of this number I operated on and removed the tonsils and adenoids. The condition in the others did not call for operation because they had no symptoms of obstructed breathing.

In our children's ward at the present time there are 69 children. Of this number 11 had but one tonsil slightly enlarged or moderately so. It was noteworthy in 10 of the 11 that the right tonsil was the one which showed enlargement. In 6 both were slightly enlarged, 6 both moderately enlarged and 10 both large.

Although I have no statistics as to the percentage of large tonsils among the group of children such as we find in the public schools, my opinion is that the percentage of large tonsils would be fully as large as I found in this sanatorium group.

There seems to be no relationship between the cases with but one enlarged tonsil and the diseased lung. Pulmonary disease is not more frequently found on the corresponding side. In fact most of these children under 12 years show bronchial gland infection as shown by consolidation of the area between the scapulae.

I agree with you in the statement which you quote, namely,—we are of the opinion that the rôle of the tonsils in the infection of tuberculosis has been very much overestimated."

Medical Progress.

RECENT PROGRESS IN GENITO-URINARY SURGERY.

BY PAUL THORNDIKE, M.D., BOSTON.

KIDNEY AND URETER.

Infections. SWEET and STEWART. (*Surgery, Gynecology and Obstetrics*, April, 1914). The authors believe there is an extensive network of lymphatics connecting those of the bladder and those of the kidney, and that ascending infections travel through this system and not through the blood stream or through the ureteral canal.

BARBER and DRAPER. (*Journal of the American Medical Association, January* 16, 1915.) This paper represents a study of the relation which impaired ureteric function bears to renal infections. The conclusion reached is: "The integrity of the factor of safety which protects the kidneys from hydropic degeneration appears to depend directly on the unimpaired prostalsis of the ureter, indirectly on the integrity of the ureterovesical valve, and most interestingly on the relationship between these physiologic and anatomic barriers."

COLE. (*Journal of the American Medical Association,* January 23, 1915.) Cole experimented on the effect of the colon bacillus on the kidney and concluded: 1, that a non-traumatized kidney, in the absence of ureteral obstruction, will overcome the bacterial invasion; 2, that the blood stream is the means of extension of these infections from renal pelvis to cortex, and vice versa, and probably, also, from periureteral tissues to the renal parenchyma; 3, that the pathological changes are due to a direct toxic action, soluble toxins being carried also to the opposite kidney.

HARTUNG. (*Berliner Klinische Wochenschrift*, April 20, 1914.) This paper reports sixty experiments in which a one-sided, artificial hydronephrosis is reduced to the effects of various infections studied by comparing the two sides. This work again emphasizes the great rôle hydronephrosis plays as a cause of renal infections.

Calculus; Calculous Anuria. Davis. (*Surgery, Gynecology and Obstetrics*, June 6, 1914.) This article is interesting and important because of the writer's statement regarding reflex anuria. He says that the possibility of its existence cannot be denied, but that convincing proof is lacking and that the few cases reported of a reflex inhibition of an unobstructed, but more or less diseased, kidney as the result of calculus obstruction of its fellow are better explained as the functional failure of an overloaded, unsound organ.

Collargol Injections. Numerous papers have been printed during the year dealing with the dangers connected with injecting collargol into the renal pelvis.

WOSSIDLO. (*Archives für Klinische Chirurgie*, Vol. ciii, No. 1.) EISENDRATH. (*Journal of the American Medical Association*, May 2, 1914.) KEYES and MOHAN. (*Journal of Medical Sciences*, Vol. cxlix, No. 1.) The danger seems to be universally recognized and extreme caution advised. Doubtless the near future will produce a technic which can be used with greater freedom and less anxiety to the operator.

YOUNG. (BOSTON MEDICAL AND SURGICAL JOURNAL, April 15, 1915.) In this paper, which has just appeared, Young reports the result of three months' work at the Massachusetts General Hospital with an emulsion of argentide. The summary of his paper states that "collargol is an absorbable kidney poison when used in the renal pelvis." The emulsion of argentide as described here is a clean, non-absorbable, opaque fluid which can be used with minimum danger to the patient and maximum satisfaction to the surgeon.

Tuberculosis. HARBITZ (*Norsk Magazin for Lagevidenskaber*, November, Vol. lxxiv, No. 11) reports findings of an old encapsulated, tuberculous process in twelve cadavers at autopsy. He says, "The process had evidently run its course and become encapsulated spontaneously with what amounted to a clinical cure," but, on the other hand,

Woolsey (*American Journal of Surgery*, Vol. 28, 1914) insisted upon the propriety of the well recognized present-day custom of early operation, and feels, with most surgeons in this part of the world, that climatic treatment is a waste of time and an unnecessary risk.

Buerger (*Interstate Medical Journal*, Vol. xxi, No. 11) reports in detail a most unusual case of primary tuberculosis of the renal pelvis and asserts the possibility that in chronic renal tuberculosis bacilli may be filtered from the blood to the renal tubules and from these in turn to the surface of the papillae or calyx recess, where they form a lesion; the anatomical disposition of those parts making for stagnation and poor drainage.

Blood Cyst. O. Wulff. (*Hospitalidene*, Copenhagen, Dec. 9, Vol. lvii, No. 49.) This paper chronicles two unusual cases of symptomless but persistent hematuria in young men in which nephrectomy showed in each case a single benign cyst filled with blood. The cysts were both in the upper pole of the kidney, and the writer says there are only fourteen such recorded cases and that most of these were in children.

Kidney Transplantation. Zaaljer (*Beitrage zür Klinischen Chirurgie*, Tübingen, Vol. xciii, No. 2) details possibly the only case where a kidney was transplanted in a dog from its normal site to the groin and was found adequately functionating and of normal size and consistency six years later. The article is illustrated and the technic is carefully explained.

BLADDER.

Cystectomy. It has long been recognized that operations for malignant disease of the bladder wall have been ineffective and often worse than useless. The point of view that holds such cases should be let alone or else treated by operations of a very radical nature is being more and more insisted upon.

Chute (*Journal of the American Medical Association*, December 26, 1914), and Squier (*Journal of the American Medical Association*) both advocate more radical operating, and the latter presents a carefully detailed technic for the operation which he calls sub-total cystectomy.

Iodine Fumes in the Treatment of Tuberculous Cystitis. Mention has already been made in previous reports of this method of treating tuberculosis in the bladder, and now Normand (*Journal d'Urologie*, Paris, March, 1915, Vol. No. 3) reports a considerable personal experience. He claims satisfactory results, describes the technic, discusses frequency of treatments and says his method is indicated in all cases, both primary and secondary, except during acute exacerbations.

Myiasis. King. (*Journal American Medical Association*, December 26, 1914.) Larvae of many flies have been found in man, a common one being the fannia scalaris or latrine fly. The literature of the subject is limited and therefore King's case is of interest and value.

PROSTATE.

Since the operation of prostatectomy has become so universally used, much is being added to our knowledge of prostatic cancer, and during the last year a number of notable papers have appeared dealing with this subject.

Freyer (*Archives Internationales de Chirurgie*, Ghent, Vol. vi, No. 4; paper written in English) finds that 134, 10% of 1276 cases of enlargement in his own private practice, were cancerous. The difficulty of diagnosis is dwelt upon. Hematuria, he says, is a rare symptom, occurring only in advanced stages, and profuse bleeding points usually to simple adenomatous enlargement rather than to cancer. He makes it clear that cancer may develop in a prostate previously the seat of adenomatous enlargement, and he reports eight cases where such cancerous development occurred and was confined within the limits of the prostatic capsule at the time of operation.

McGrath (*Journal of the American Medical Association*, Sept. 19, 1914), in a paper from the Mayo clinic, compares the epithelial changes in prostatic cancer with those of mammary carcinoma, asserts its frequency after fifty years of age, names the posterior lobe as its usual site, and states that it usually occurs at first as a small nodule of slow growth and therefore that "careful investigation of the posterior lobe, gross serial sections of the specimen with microscopic examination of doubtful areas, are essential for diagnosis in the majority of cases."

Young (*American Journal of Urologie*, June, 1914) reports a series of cases, calls attention to the fact that a study of two hundred cases, most of them advanced, shows that ulceration of both vesical and rectal mucosa is uncommon, and intravesical tumor growth equally so. He says two layers of Denonvillier's fascia are largely responsible for confining the cancer to the prostate and thus protecting the rectum. Young's paper includes a description of technic for a radical operation and reports six of his own cases where such an operation was performed.

Syphilis. Wright (*Transactions of Chicago Urological Association*, November, 1912) reports a case of syphilis of the prostate, which is mentioned here because of its rarity.

Colliculectomy. Rytina (*Journal of the American Medical Association*, Jan. 2, 1915) describes an instrument and an operation for the radical removal of the verumontanum, a procedure which he thinks "less liable to untoward complications and sequelae than strong applications of silver nitrate thermocautery."

TESTIS.

Tuberculosis. Barney. (*Journal of the American Medical Association*, Dec. 26, 1914.) Bar-

ney's rather statistical paper is of value because of the material back of it. He points out the fact that in genito-urinary tuberculosis (a useless term) it is the genital tract which is usually first affected, and that the process is secondary to similar disease in other parts of the body in more than half the cases. He quotes one hundred epididymectomies, an operation which he highly advocates, and says that in no case has the necessity arisen for a subsequent orchidectomy,—a most unusual experience.

SIMMON. (*Beitrage zür Klinik der Tuberculose*, Würtzburg, Vol. xxxiii, No. 1.) This paper is interesting in connection with the one above, as substantiating more or less Barney's statement that the genital tract is usually the first to become involved. The writer quotes findings in 105 cadavers in which the genital system was alone involved, and in 95 other cases the tuberculous process had affected the kidney or the bladder as well. In the genital tract he believes the prostate to be the primary seat in about half of all cases; the seminal vesicle and testis about 25% each.

Tumor. HINMAN. (*Journal of the American Medical Association*, Dec. 5, 1914.) This really valuable paper, which describes new and radical technical procedure, also points out that in almost every case of cancer the earliest metastasis occurs first in a limited area of lymph nodes in the lumbar region, between the bifurcation of the aorta and vena cava below, and the renal pedicle above. He also believes that the pathological division of tumors of the testis into embryonal carcinoma and mixed cell types is an arbitrary one, as both are teratomas, and yet such a division is of value clinically, as it seems to be a fact that the former class is less likely to metastasis, although of more rapid growth, while the latter, although of slower growth, has a smaller percentage of cures from operation.

Sterility. WHEELER (*British Medical Journal*, Feb. 7, 1914) describes an ingenious anastomosis operation for the vas deferens in which the divided ends are passed over the eye and point of a fine needle until they meet. Sutures are then inserted, and finally the needle is pushed through the wall of the vas at a distance from the point of union.

LESPINASSE (*Journal of the American Medical Association*, Nov. 28, 1914) describes an ingenious operation for male sterility in those cases, more than half of all of them where the vas is obstructed above the internal ring, and behind where ordinary anastomosis is impossible. The operation aims at the production of an artificial sac, communicated with the epididymitis and serving as a receptacle and storehouse for the sperm discharged into it. This sac can be tapped whenever sperm is desired for impregnating purposes. At the time of publication this method had never been tried on men, but the writer had operated seventy-one times on dogs. This seems a somewhat fantastic article, but is really a clever and an interesting idea.

GONOCOCCUS.

CRABTREE. (*Journal of Infectious Diseases*. Sept. 19, 1914). This paper is written to combat Warden's contention, which was briefly that the staphylococcus albus, under certain conditions, loses its power to hold Gram's stain, and that intracellular diplococci in the pus of gonorrhea are probably not gonococci at all but are the Gram negative staphylococci in diplococcal form. Crabtree concludes that the staphylococcus albus has no stage of growth in which it is a gram negative organism and, therefore, that Warden is wrong.

TESTS FOR RENAL FUNCTION.

In 1909 Rowntree and Geraghty advocated the use of phenolsulphonephthalein as a test for renal function. They believed that many of the difficulties which pertained to other similar tests had been overcome, and their contention was sustained by the publication, during the next few years, of a large number of articles all over the world. Now comes the report of many observations in this very significant and valuable paper from the Mayo clinic.

BRAASCH and THOMAS (*Journal of the American Medical Association*, Jan. 9, 1915) Their conclusion so entirely coincides with the writer's point of view in such matters that he cannot refrain from printing it verbatim. "We should like to emphasize that it is not our purpose to belittle Geraghty and Rowntree in their thoroughly scientific efforts to establish a chemical estimate of renal function. The phenolsulphonephthalein test, because of the ease of application and rapidity of secretion, remains as probably the best functional test at our command. Nor is it our purpose to detract from the value of a careful examination of the character of ureteral secretion in surgical conditions of the upper urinary tract. It is our contention, however, that the fundamental surgical principles and clinical data should determine whether or not an operation is indicated; and that renal functional tests are of practical value largely as an aid to differential diagnosis and only to a limited degree as a prognostic aid."

MILLER and CABOT. (*Archives of Internal Medicine*, March, 1915.) The writers have used the phenol sulphonephthalein test as a means of studying the effect of anesthesia and operation upon kidney function in 422 cases at the Massachusetts General Hospital. Some of their conclusions follow: "The output of phenolsulphonephthalein by the kidneys grows progressively less with advancing years. There is a normal daily variation in its excretion influenced by many factors. After operations under ether there is a decreased output, the decrease being greater in laparotomies than in the general average, and considerably greater in cancer cases.

The sooner after operation the test is done the greater the decrease, the output returning to about normal in from twenty-four to forty-eight hours. The more ether that is used and the longer the operation, the greater the decrease in phenolsulphonephthalein excretion. Some cases show no decrease, others great decrease or almost total inhibition of excretion without discoverable cause. Shock causes great decrease, as does also any condition of much impaired vitality. There is no definite relation between decreased drug excretion and the occurrence of albuminuria after operation."

Creatinin Test. In this day, when many tests for renal function are receiving attention and interest from the profession, this one of NEUBAUER (*Münchener Medischinische Wochenscrift*, April 21, 1914), is not without interest. He states that if 1.5 grams of creatinin are dissolved in 100 or 150 c.c. of sweetened water and are given to patients, those with normal kidneys will eliminate from 60 to 90% of the creatinin in the next six hours, while those with diseased kidneys will eliminate but 20% or less during that time, the remainder of it taking days to be disposed of. The test does not seem to be one of those destined for general usefulness, but is of interest and may be of importance in many cases that are of a non-surgical character.

Complement Fixation Test. MCNEIL. (*New York Medical Journal*, August 22, 1914. Three years ago the writer of this paper presented certain conclusions regarding this test, as follows: "A positive reaction denotes the presence of recent activity in the body of a focus of living gonococci. A negative reaction does not exclude gonococcus infection but is of considerable importance. A strong positive reaction is not to be expected earlier than the fourth week, and then only in very acute cases with some complication, and the reaction does not entirely disappear until seven or eight weeks after cure. A positive reaction is not obtained if the disease is limited to the anterior urethra."

This present paper is of value because it is based upon 5381 examinations made at the serological laboratory of the New York Health Department. It does not, however, materially alter the conclusions instanced above, which the writer published in the former paper.

Hexamethylenamin. The almost universal use of this drug as a urinary antiseptic has brought forth during the last year numbers of articles concerning its real value, and the following paper is typical of many others.

L. H. LEVY AND A. STRAUSS. (*Archives of Internal Medicine*, Chicago, November, 1914.) The conclusions reached are, that to be of value formaldehyd must be liberated in strengths varying from 1 to 15,000 to 1 to 5000, depending upon the organism to be inhibited; or from 1 to 5000 to 1 to 1000 as a bacterial drug; in this latter case, also, depending upon the organism present. High acidity is necessary in all cases excepting typhoids, and this high acidity, combined with the formaldehyd present may produce injury to kidney tissue.

GROSZ (*Vienna Klinische Wochenschrift*, May 28, 1914) advances the following technic as a test for the presence of hexamethylentetramine in the urine: "Add to the urine enough 10% acetic or hydrochloric acid to five-fourths or four-thirds the total; then add, a drop at a time, a saturated aqueous solution of mercuric chloride. A fine-grained sediment is positive."

Reports of Societies.

THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A MEETING OF THE SURGICAL SECTION, FOR THE DISCUSSION OF HOSPITAL EFFICIENCY, WAS HELD AT THE BOSTON MEDICAL LIBRARY, WEDNESDAY, JANUARY 6, 1915.

The following papers were read:

HOSPITAL EFFICIENCY FROM THE STANDPOINT OF AN EFFICIENCY EXPERT.[1]

By MR. FRANK B. GILBRETH, Providence, R. I.

HOSPITAL EFFICIENCY FROM THE STANDPOINT OF A HOSPITAL SURGEON.[2]

By DR. ROBERT L. DICKINSON, Brooklyn, N. Y.

HOSPITAL EFFICIENCY FROM THE STANDPOINT OF A HOSPITAL SUPERINTENDENT.

By DR. HERBERT B. HOWARD.

HOSPITAL EFFICIENCY FROM THE STANDPOINT OF A HOSPITAL TRUSTEE.[3]

By DR. WALTER WESSELHOEFT, Cambridge, Mass.

HOSPITAL EFFICIENCY FROM THE STANDPOINT OF A PUBLIC SERVANT.

By HON. JAMES M. CURLEY, Mayor of Boston.

DISCUSSION.

DR. JOEL E. GOLDTHWAIT: In the organization of most of our hospitals the trustees are the legal owners of the property or are the agents of the actual owners. It is their duty to see that the property for which they are responsible is developed in the best possible manner and that it is made to pay the largest possible dividends in the form of medical service. As a part of their duty a staff is selected and appointed for the particular purpose of attending to the medical care of those to whom the service is offered. As a still further part of their duty a superintendent is appointed to see that the mechanical part of the maintenance of the institution is properly cared for. A superintendent of nurses is appointed to see that the nursing is prop-

[1] See JOURNAL, page 774.
[2] See JOURNAL, page 775.
[3] See JOURNAL, page 778.

erly developed. A social service worker should be appointed to act for the trustees to see that those being received into the wards are suitable cases and also to see that the hospital work is checked up in relation to efficiency by keeping track of the patients after they leave the hospital. These and other appointments should be made for the purpose of developing the work upon the broadest lines and in the most efficient manner that is possible.

All of these appointments should be made by the trustees and the appointees should be directly responsible to them. With the staff they are not only directly responsible to the trustees, but the two bodies should meet together from time to time to discuss methods of development of the work and for interchange of opinions. The lack of opportunities for meeting between these two bodies is one of the greatest reasons for the inefficiency of the service in some of our institutions today.

Since the final authority and responsibility rests with the trustees, the work of the staff should be carefully scrutinized to be sure that the work is being properly performed. It is not an uncommon thing to find occupying staff positions in our institutions today, busy men, too much absorbed in private or other work to attend properly to the work of the hospital. A man's reputation should not be the thing that determines his selection or his continuance upon the staff, but the character of his work alone should be the test. If he has not time to organize or perform the work, he is a hindrance to the hospital, no matter how great his reputation may be. The "output" under some younger or less known man would be vastly greater. It is the duty of the trustees themselves, or through unprejudiced experts, to pass upon the character and efficiency of this work. In considering the staff the laboratory heads are, of course, included, the same scrutiny being given to the work performed there as to the work in the wards.

The superintendent is appointed by the trustees and should naturally be expected to develop the mechanical part of hospital life in the best possible manner, and the same high standard of efficiency should be insisted upon from him as from the staff. The staff should in no way be responsible to the superintendent, since their work is entirely different and each should be held responsible to the trustees, and not each to the other.

The superintendent of nurses should also report directly to the trustees and not through the superintendent of the hospital, since their functions are naturally different.

The social worker, if used right, is one of the most valued aids to the trustees in determining the character of the work performed. The result of the work done should be known not only when the patient leaves the hospital, but at intervals extending over many months, the ultimate result being that which interests the patient most and should be of the greatest interest to the trustees as well as to the staff. The most practical method of keeping up this part of the work is the system of "follow-up" cards such as have been urged so strongly by Dr. Codman.

Each of these departments is part of the hospital machine. Each is important. Each should know what the other is doing and for this purpose meetings should be held, at which each department is represented, for opportunity for free exchange of ideas as they apply to the work of the institution. It is team work, and as in other teams the star player is of little use in the game unless he will subordinate his desire to the general good. No one department is better than another. Each is part of the work, and the final responsibility rests with the trustees.

This body should be so organized that it can not only know what is being done, but so that it can give proper consideration or support to whatever requests are made. Its own efficiency depends upon the organization, and since it is not to be expected that any one individual can comprehend all of the many details of hospital life and service, it at once means that the whole body should be divided into committees. Those with proper training should look after the finances and see that the purely business part of the work is satisfactory. Those having medical knowledge should be responsible for the medical oversight of the work, with any other subdivisions as are needed, but with the entire board meeting at sufficiently frequent intervals for all to be in a general way familiar with the work as a whole. So much is involved in this that great care should be given to the selection of the members of such boards so that the broadest kind of medical and business direction can be given by the body that is held ultimately responsible.

Book Reviews.

Case Histories in Diseases of Women, Including Abnormalities of Pregnancy, Labor and Puerperium. A Clinical Study of Pathological Conditions Characteristic of the Five Periods of Woman's Life. By CHARLES M. GREEN, A.B., M.D., Professor of Obstetrics and Gynaecology in Harvard University; Senior Surgeon for Diseases of Women, Boston City Hospital; Visiting Physician, Boston Lying-in Hospital. Boston: W. M. Leonard. 1915.

Dr. Green's book presents the collected experience of a lifetime spent in the teaching and practice of gynecology and obstetrics. It is his well-known class-room and clinical teaching transferred to print, and constituting an attractive volume of 477 pages.

It is particularly fitting that Dr. Green should have added this book to the Case History series, for he was the first to use the case history method in teaching at the Harvard Medical School, his first attempt along this line dating back to 1891, when by special permission of the faculty he first instituted a voluntary exercise in obstetrics which subsequently became a required part of the curriculum.

The book is divided into five sections: Infancy and Childhood, Puberty and Adolescence, Maturity, the Climacteric, and Anility. At the commencement of each section is given a brief synopsis of the field covered, which is followed by the illustrative cases. In each division of

the book, the author has followed a logical arrangement by pathological processes rather than by organs. He takes up successively functional disturbances, malformations and displacements, infections, traumata, and neoplasms. This is a great improvement over the ordinary more or less haphazard system of dividing the subject of gynaecology into diseases of the separate organs, since in the pelvis the same pathological process almost necessarily will involve more than one, and frequently all of the pelvic organs.

The cases are presented with simplicity and clearness just as they come to the physician in the hospital clinic or in private practice. The author also goes into many cases drawn from his wide experience in private practice in which delicate moral and ethical questions have arisen, which are not discussed in the ordinary text-book of gynaecology, and are seldom or never encountered in the hospital clinic. These are to be found especially in the portion of the book dealing with adolescence and early married life.

In the section on maturity a series of case histories illustrating the common obstetric difficulties and the more frequent complications of the puerperium is inserted, lending completeness to the work. A number of temperature charts representing pathological puerperia give additional clearness to the text. Dr. Green gives the reader perhaps a little too optimistic view of the results of the treatment of eclampsia and also of the treatment of sterility.

A few excellent illustrations from photographs are added to the text, although the book is not intended to be freely illustrated. There is a very complete index, an important part of any book, and one which is too often slighted.

Altogether the book is one which every practitioner who does obstetrics, whether as a part of general work or as a specialty, should use both for reading up and for reference. He will find situations parallel to those which he himself has to meet and the best way of handling them described in a practical manner. As a text-book for class-room use, the work, in common with the other more recent volumes of the Case History series, would be of greater value in teaching if the cases were presented purely as problems and the answers withheld for discussion by the student and instructor. In the attempt to put out books useful for the practitioner as well as the student, the tendency has been to lose sight of the primary use of this form of text-book.

The Commoner Diseases. Their Causes and Effects. By Dr. Leonhard Jores. Authorized translation by William H. Woglon, M.D. Philadelphia and London: J. B. Lippincott Company.

Jores is professor of pathology and pathological anatomy at Marburg. His book represents a series of 34 lectures in pathology. There are some 250 illustrations in the text, mostly photographs from pathological specimens. The author does not pretend to cover every branch of morbid anatomy. Inasmuch as he rather strictly adheres to his plan of devoting a chapter or lecture to a single subject or an allied group of subjects, the space allotted to various subjects is often disproportionate, not only to the importance of the subject, but also to the material which must be reviewed. Contrary to what might possibly be assumed from the title, the book is not clinical and does not concern itself with diagnosis or treatment. It does represent, however, a careful, sound, even if rather cursory, discussion of the pathological findings in the commoner diseases.

Modern Medicine. Its Theory and Practice. By Sir William Osler, Bart, M.D., F.R.S.; and Thomas McCrae, M.D. In five octavo volumes of about 1000 pages each. Volume IV. Diseases of the Circulatory System; Diseases of the Blood; Diseases of the Lymphatic System; Diseases of the Ductless Glands; Vasomotor and Trophic Disorders. Philadelphia and New York: Lea and Febiger. 1915.

The fourth volume of this standard text-book by distinguished authors now appears in its second edition. Dr. Osler himself contributes the section on "Vasomotor and Trophic Disorders" and also the chapters on "Acute Endocarditis," "Valvular Heart Disease," "Aneurysm," and "Diseases of the Arteries." Dr. Maude E. Abbott contributes a very remarkable chapter on "Congenital Cardiac Diseases," that is almost a monograph in itself. This portion has been very largely rewritten. Dr. Thomas Lewis appears in this second edition for the first time as a contributor. His chapter on "The Rate and Mechanism of the Heart Beat" is a clear short exposition of that subject. All the chapters are excellent and show the effect of careful revision.

Aids to Dental Anatomy and Physiology. By Arthur S. Underwood, M.R.C.S., L.D.S. New York: William Wood and Company

This manual in the Students' Aids Series aims to form an introduction to the study of dental histology. This third edition has been modified in accordance with the important advances of recent years, notably in the subjects of calcification and the innervation of dentine. This subject of calcification is especially treated in an appendix by Mr. J. Howard Mummery. The chapter on microscopy has been omitted. The book should continue a useful guide to dental students.

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HOSPITAL EFFICIENCY.

IN the spring of 1914, the Philadelphia County Medical Society appointed a committee to consider the ways and means by which the efficiency of hospitals in Philadelphia might be increased. After an extensive study of the situation this committee presented its results in a series of three reports, with an introduction on the principles of hospital efficiency by the secretary of this committee. These results and recommendations were editorially reviewed in the *Journal of the American Medical Association* for February 6, 1915.

On January 6, 1915, a meeting for the discussion of hospital efficiency was held at the Boston Medical Library under the auspices of the surgical section of the Suffolk District Medical Society, and in the issue of the JOURNAL for January 21 we commented editorially on this meeting and on the principles of hospital efficiency and the methods by which their attainment should be sought. In the present issue of the JOURNAL we take pleasure in publishing the principal papers presented at this meeting and an abstract of their discussion.

The astonishing results which have followed the efficiency crusade wherever the attention of the experts has been focused on any special problem can but encourage us to look for marked improvement in hospital management now that the business of the "happiness factory," as one of the writers on hospital efficiency, whose article appears in this issue of the JOURNAL, has termed the hospital, is being critically studied.

With the general principle of survey work in the hospital, we are in hearty accord. There can be no question but that the wage scale and living conditions of employees in many institutions demand quite as acutely as factories very careful scrutiny. A low cost per capita per day resulting from sweat shop conditions and poor food means, of course, inefficiency, though it has been at times commended.

The patients and the public should receive in every way the maximum in service from the available supply of scientific knowledge and funds. Besides the immediate care of patients, the hospital has a responsibility to the community in establishing standards of hygiene, and the information contained in the records should constitute valuable data bearing on many of the large public questions.

In so far as the purely business part of the hospital is concerned, the checks which have been found to be valuable to commercial ventures, such as hotels and factories, should be instituted. The general introduction of a comprehensive system of institution book-keeping, a problem which has interested the progressive hospital superintendent for years, would be of great value, and it is evident that a closer coöperation between institutions in the matter of the purchasing of supplies must needs lead to a material saving. To this end no studies in efficiency can be carried out for a more worthy purpose or with greater hopes of producing results.

That the attending staffs in many institutions fail to render the maximum service in their care of the sick and that many boards of trustees are delinquent in the seriousness with which they assume their responsibilities cannot be denied. A certain degree of standardization of methods and routine in the care of patients should improve conditions. Careful follow-up systems,

which will show the actual results of treatment, are checks which the trustees and the public must insist upon in order that the character of the work done in the hospital and by the individual attendant may be justly judged.

On the other hand, it is to be remembered that too great systematization tends to produce unthinking routine. The painstaking study of the individual case is what has advanced medical knowledge, rather than a compilation of bookkeeping results obtained from the analysis of a large series of cases. Accurate as modern science has made the practice of medicine, it is still, to a degree, an art. The ills from which mankind suffer do not occur with sufficient precision to make the establishment of many of the efficiency tests applicable. It should not be forgotten that the patient is an individual, and that the physician or surgeon in charge is an individual. To minimize this fact and consider the treatment of the patient as simply a piece-work problem and the attendant in the light of a skilled workman would be deplorable.

With the point of view that the shortcomings of the hospital should be placed mainly at the door of the trustees we are not at all in sympathy. By and large, the men who serve as trustees of hospitals are men of integrity and high ideals. They are vitally interested in everything which increases efficiency. They may be misguided in their interpretation of what constitutes efficiency, but it is our opinion that they need guidance rather than condemnation. The whole tendency of today is to break down the traditional barriers between the purely administrative directors of the hospital and the medical staffs. This is evidenced from the increasing number of hospital boards who request a number of members of the attending staffs to meet with the trustees. If this spirit of coöperation is fostered and if, with the combined wisdom of the lay and professional boards, the three essentials of hospitals—"to care for the sick, to assist in the education of students, and to contribute to the advancement of medical knowledge"—are borne in mind, properly directed efficiency studies will play an important part in helping to formulate the broader ideals of hospital service.

Perhaps after all the conclusion of the whole matter is best summarized and stated by the following resolutions adopted as a result of the Boston meeting on hospital efficiency:—

"That the committee of supervision, acting for the Suffolk District Medical Society, approves of the movement to secure greater efficiency in our hospitals.

"That it believes the adoption of the principles of the 'end result system' in hospitals would be conducive to greater efficiency of those institutions.

"That the president of the society is authorized to appoint a committee which shall inquire into the practical application of this system and shall later make a report and recommendations to the society.' "

RECENT IDEAS ON VENTILATION.

UNDER the title "Standards of Ventilation in the Light of Recent Research," Professor C.-E. A. Winslow describes the results of the investigations of the New York State Commission on Ventilation during the past year.[1] He points out that the former *bête noir* of sanitarians, carbon dioxide, is no longer to be regarded as a poison; that insufficient ventilation does not mean a lack of oxygen for breathing purposes and an excess of carbon dioxide, as taught only a short time ago. In other words, it is not the chemical composition of the air we breathe that is the important factor, but physical conditions —the temperature, the humidity and the air movement.

Experiments were conducted by the New York commission in two rooms of the College of the City of New York, equipped so that atmospheric conditions in one room could be very closely controlled by apparatus situated in the other. In the observation room over one hundred different subjects in groups of four were exposed for periods of from three and a half to eight hours a day for from one to eight weeks in each series of experiments, to known conditions of temperature and humidity and atmospheric vitiation, and their physiological and psychological reactions, and their mental and physical efficiency were observed and measured by the most exhaustive methods.

Stagnant breathed air, contaminated by a group of subjects so as to contain on an average from 20 to 60 parts of carbon dioxide per 10,000, proved to be entirely negative so far as the elaborate physiological, psychological and efficiency tests were concerned. Quite extreme conditions of heat and humidity (86° with 80% relative humidity) had no measurable effect on the rate of respiration, on dead space in the

lungs, on acidosis of the blood, on the respiratory quotient, on the rate of digestion and rate of heat production (both measured by oxygen consumption), on protein metabolism (measured by determinations of creatinine in the urine), or on skin sensitivity. On the other hand, the working of the circulatory and heat regulating mechanism of the body was markedly influenced by even a slight increase in room temperature, as, for example, from 68° to 75,° with 50% relative humidity in both cases. A high room temperature (86°) produced an average rectal temperature in all subjects of 37.41° C., whereas the rectal temperature averaged 36.73° C. when the room was at 68.° The systolic blood pressure averaged 112 when the room was at 86° and it averaged 116 with the room at both 75° and 68.° The average amount of physical work accomplished during the day was rated as 137 with the room temperature 68,° and 100 with a temperature of 86.° This was in summer. In the fall the figures were 114 and 100 for the same room temperature respectively.

Interesting improvements in the engineering of modern ventilation are explained by Mr. D. D. Kimball, another member of the New York State Commission on Ventilation.[2] Ten years ago, he tells us, the mechanical efficiency of the ventilating fan customarily used was about 45%. Now, the best type of fan (the multi-blade) has an efficiency of 65%, thus effecting a saving of more than 30% of the power expenditure for ventilation. He describes air washing and the recirculation of the air used for ventilation. The air washer consists of a sheet metal chamber in which air is passed through a heavy mist and then through eliminator plates by which the air is so deflected that the contained moisture is removed. According to the researches of Mr. M. C. Whipple, of Harvard University, the air washer removes from 64% to 7% of dust, certain dusts not being removed to any appreciable extent. Such air washers are used in many industries, such as candy and macaroni making, the preparation of photographic films and in textile manufacturing.

The conclusion reached by the New York commission was that there seemed to be no appreciable difference between washed recirculated air and outdoor air similarly treated so far as bodily comfort is concerned. Naturally the proportion of carbon dioxide is greater when using the recirculated air, but no significance was attached to this fact.

Mr. Whipple thought: "That recirculation provided a plentiful supply of air with no apparent sacrifice of wholesome properties, and that it is a safer source of supply than outside unwashed air." Odors were not noticeable to those occupying the room during the use of recirculated and washed air, although sometimes barely noticeable to one entering from out-of-doors. Recirculation manifestly saves a large amount of heat and, in the opinion of Mr. Kimball, its use may prove to be a great step in advance in the field of mechanical ventilation.

The desiderata in ventilation would seem to be, regulation of the room temperature, generally elevated by the numerous bodies of human beings at 98.4,° regulation of the humidity, also raised by the respiration and perspiration of the people in the room, and washing the air and keeping it constantly in motion.

REFERENCES.

[1] *Science*, April 30, 1915, pp. 625-632.
[2] *Ibid.*, pp. 632-636.

THE VETO OF THE CLEAN MILK BILL.

IN various previous issues of the JOURNAL we have from time to time commented editorially on the so-called Labor Clean Milk Bill in various stages of its legislative progress, and in last week's issue we published the circular letter of the president of the Massachusetts Medical Society urging the signature of the bill by the governor. Unfortunately the governor's unexpected and regrettable veto of this bill, which was returned to the Senate on May 20, puts a check at the last stage to this desirable piece of public health legislation, unless sufficient strength can be mustered by its advocates in the General Court to pass the measure over the veto.

The subject of clean milk legislation has been agitated before the public for over five years, and previously the Ellis milk bill, the predecessor of the present measure, after being successfully passed by the legislature, has been killed by the gubernatorial veto. Apparently the decision to veto the present measure was, in part at least, influenced by a meeting held in Worcester on May 19, at which five hundred milk producers, representing thirty-four cities and towns of Worcester county, unanimously adopted a resolution of protest requesting the governor to veto the bill. In his veto message, the text of which is printed in another column, the governor states that there is already suffi-

cient law on the statute books to protect milk consumers; that the proposed bill is so stringent that it would only impose additional hardship on Massachusetts farmers and milk producers without giving consumers enough additional protection to justify the legislation. The message lays especial further stress on Chapter 744 of the acts of 1914, relative to the production and sale of milk, which, it is alleged, furnishes all the protection necessary:—

"Chapter 744, acts 1914, makes it unlawful for any producer of milk, or dealer, to sell or deliver for sale in any city or town in the commonwealth any milk produced, or dealt in by him, without first obtaining from the board of health of such city or town a permit authorizing such sale or delivery. Provision is made in the act for examinations of the place in which such milk is produced and the boards of health are further authorized to make such reasonable conditions in the permit as the board may think suitable for protecting the public health."

Naturally these reasons will not appear satisfactory or adequate to members of the medical profession and to others who have coincided with the JOURNAL in its editorial opinion, strongly advocating the passage of the clean milk bill. Apparently this desirable piece of legislation, again nearly at its consummation, has again been defeated by the influence of milk producers who, in the past, have uniformly opposed this and similar legislation. It is still possible, however, that the bill may be enacted into law by a two-thirds legislative vote passing it over the governor's veto. Circular letters, urging this action, have already been sent to all members of the Senate by the Boston Milk and Baby Hygiene Association and the Massachusetts branch of the American Federation of Labor. It is earnestly to be hoped that physicians and all others who have concerned themselves with this measure of public health will again give their support and aid by writing to their senators and representatives, urging the passage of the bill in this definitive manner.

Since the above was in print, the Senate, on May 21, by an almost strictly party vote, sustained the governor's veto.

COMPLIMENTARY DINNER TO DR. THEOBALD SMITH.

THE postponed complimentary subscription dinner to Dr. Theobald Smith, upon the occasion of his completion of more than twenty years of service to the Harvard Medical School, is to be held at the Harvard Club, Boston, on Wednesday evening, June 2, at 7 p.m. In the issue of the JOURNAL for March 18 we published a brief editorial statement of Dr. Smith's services to his college and to the advancement of medical science, and extended to him the felicitations of the profession and the expression of its cordial good wishes and confidence in his promise of even greater achievement in the new and larger duties to which he goes, in conjunction with the work of the Rockefeller Institute for Medical Research in New York. To these feelings are now added those of grateful congratulation for his happy recovery from the illness which made necessary the postponement of this meeting in his honor. President Lowell is to preside at the dinner and already 150 acceptances have been received, so that a large and successful gathering is assured. It is even more to be desired, however, that as many physicians as possible should take advantage of this opportunity to express the appreciation and realization of the profession of the importance and distinction of Dr. Smith's service to medical science and research, and all who have not already planned to attend this occasion are cordially invited and urged to do so. The subscription ($5.00) of all those wishing to take part should be sent prior to the dinner to Dr. Marshal Fabyan, 379 Commonwealth Avenue, Boston.

VOLUNTEERS FOR THE HARVARD SURGICAL UNIT.

ATTENTION is called to the notices published on the last page of this issue of the JOURNAL, calling upon physicians and nurses to volunteer for service, in England or in France, on the second Harvard surgical unit, now being organized. The expedition will start from Boston early in June, and is destined for six months' service in Europe, until January 1, 1916, unless the war is sooner ended. The details of this work are stated in the notice. This is a service which calls for volunteers of the highest grade and qualifications, and for the honor of the New England medical and nursing professions it is expected that there will be an abundance of well fitted volunteers.

MEDICAL NOTES.

AMERICAN PROCTOLOGIC SOCIETY.—The seventeenth annual meeting of the American Proctologic Society will be held at San Francisco, California, on June 21 and 22, 1915. The profession is invited to attend all meetings.

BUBONIC PLAGUE IN HAVANA.—Report from Washington, D. C., on May 11 states that two more cases of bubonic plague have been discovered in Havana, making a total of fourteen cases since the beginning of the outbreak six weeks ago. American and local officials are working in conjunction to eradicate the plague.

PREVALENCE OF MENINGITIS, MALARIA, PELLAGRA AND POLIOMYELITIS.—The weekly bulletin of the United States Public Health Service for May 7, 1915, states that during the month of March, 26 cases of cerebrospinal meningitis were reported in New York State. During the same month, in Mississippi there were reported 16 new cases of meningitis, 4596 of malaria, 621 of pellagra and 39 of poliomyelitis.

WASHINGTON UNIVERSITY MEDICAL SCHOOL.—At the recent dedicatory exercises of the new buildings of the Washington University Medical School, St. Louis, a number of honorary degrees were conferred. Among these the degree of Sc.D. was given to Drs. W. T. Porter and O. E. Folin of the Harvard Medical School and to Dr. Theodore Janeway. The degree of LL.D. was conferred, among others, on President Lowell, Dr. Simon Flexner and Dr. W. H. Welch.

SMALLPOX ABOARD THE CHARLESTON.—Report from Seattle, Wash., on May 16 states that the United States cruiser *Charleston* has been quarantined at that port on account of the discovery of two cases of smallpox among recruits aboard.

WATER FILTRATION PLANT AT ST. LOUIS.—On May 15 there was dedicated at St. Louis a new water filtration plant which has recently been completed at the extreme northern end of the city at a cost of $1,300,000. The daily capacity of this plant is 150,000,000 gallons and, in cases of emergency, 200,000,000 gallons.

"The opening of the filtration plant is the last step deemed necessary for years to assure St. Louis of clear water. The city's water is taken from the muddy Mississippi River, and first is given a chemical treatment that precipitates the solids and foreign matter. The water then passes through a series of settling basins, from which it emerges clear. For years this system was sufficient to assure the city clear water, but as the demands for water grew with the growth of the city, it was noticed that in hot weather or when the river was unusually muddy, the water was drawn through the settling basins so fast that it poured out of the faucets slightly discolored. The great sand filter then was built. The water now will pass from the settling basins into the filter, and thence into the mains. The filter, it is believed by engineers, will assure the people of St. Louis absolutely clear water."

CARE OF THE FEEBLE-MINDED.—The subject of the care of the feeble-minded was discussed on May 17 at one of the section meetings of the National Conference of Charities and Correction in session at Baltimore. Mr. Amos W. Butler, secretary of the Indiana State Board of Charities, presented a report of an investigation of the number and care of the feeble-minded throughout the United States.

"The most conservative estimate of the number of feeble-minded in this country is one in every 500 of the population. This means 200,000. About one-tenth of this number are receiving proper care. At least two-thirds of the feeble-minded have inherited their feeble-mindedness. The average number of children born in a family is four, whereas in the degenerate families we find 7.3 each. One study of the mentality of truants shows upwards of 80% of them feeble-minded. Many different studies show from 46% to 89% of reformatory inmates to be feeble-minded. If these statements should be taken at only half their value, they still show a condition important enough to need prompt action."

NEW YORK CITY'S HEALTH LAST WEEK.—There were 1472 deaths and a death-rate of 13.23 per one thousand of the population reported during the past week, as compared with 1533 deaths and a rate of 14.32 for the corresponding week in 1914,—a decrease in the absolute number of deaths of 61 and in the rate of 1.09 points, which is equivalent to a relative decrease of 121 deaths.

Scarlet fever, typhoid fever, organic heart diseases, pulmonary tuberculosis, and chronic Bright's disease, all showed a decreased mortality.

Those causes showing an increased mortality were measles, whooping cough, tuberculous diseases (other than pulmonary tuberculosis), diseases of the nervous system and violence.

Viewed from the point of age grouping, there was a considerable increase in the deaths of children under one year of age and of children between one and five years of age, which was more than offset by the decreased mortality at the age groups of 5 years and over.

The death-rate for the first twenty weeks of 1915 was 14.63 per one thousand, as compared with a rate of 15.35 during the corresponding period of 1914, a decrease of .72 of a point.

AN EDUCATIONAL LUNCH ROOM.—The Bureau of Public Health Education of the city of New York has opened an educational lunch room, in which carefully arranged luncheons are provided at low cost with the object of furnishing

wholesome food at cost price and of educating its patrons in food values and nutrition. Appearing on the menu is a statement of the number of calories and grams of protein each article contains.

Tuberculosis in the French Army.—Professor L. Landouzy of Paris has published in the *Revue d'Hygiene* an article calling attention to the danger of rapid spread of tuberculosis in the French army, due to the massing of soldiers in restricted areas, such as trenches and during siege operations, where it is impossible to protect the well from such tuberculates as may be in their ranks. In a condition of peace it has been estimated that in eight years the number lost to the army was 36,000, so that the present army may lose not fewer than 30,000 a year from this cause. Dr. Landouzy makes the suggestion that known tuberculates be given posts and stations in the outlying districts apart from the segregations of soldiers in trenches and forts.

Gorgas Prize Medal.—Referring to the Gorgas prize medal, to be awarded yearly by the Association of the Medical Reserve Corps, U. S. Army, New York State Division, the board of award makes the following announcement:—

The competition is open to medical officers of the Army, officers of the Medical Reserve Corps of the Army, and medical officers of the Organized Militia.

The medal will be awarded for the paper submitted which shows the most important advance in medicine or surgery on a medical or medico-military subject, preference being given to papers on a medico-military subject.

The medal will be awarded only for papers of exceptional value.

The board of award consists of three members of the faculty of the Army Medical School, appointed by the Surgeon-General, U. S. Army.

The papers should be submitted to the Board of Award, Gorgas Prize Medal, by March 31 of each year, and should be addressed to the President of the Board of Award, Gorgas Prize Medal, Army Medical School, Washington, D. C.

The award will be announced at the graduation exercises of the Army Medical School, on May 31 of each year.

European War Notes.—It is reported from Philadelphia that early in June another surgical unit will sail from that city for service in military hospitals of France and England. The leaders of this unit will be Dr. J. William White, Dr. R. Taite McKenzie and Dr. James P. Hutchinson. The unit will be stationed primarily at the American Ambulance Hospital at Paris, and, in addition to the above named, will consist of a number of physicians and nurses. Dr. Hutchinson will be the chief surgeon.

In the issue of the Journal for May 6 we noted a proposition by Sir William Osler, of Oxford, that the Harvard Medical School should send abroad in June, for service in an English government field hospital, either in France or in England, a second surgical unit, to consist of twenty-four surgeons and seventy-five nurses, and to have charge of over one thousand beds. The unit is now in process of organization and will be under the leadership of Drs. Edward H. Nichols, Charles A. Porter and William E. Faulkner of Boston. It is probable that as many as thirty-two, instead of twenty-four, surgeons will compose this unit, which is to undertake a service of six months. In last week's issue of the Journal was published the call for volunteers for the unit with full statement of the details of requirement.

On May 22 the totals of the principal American relief funds for the European War reached the following amounts:—

	N. Y.	N. E.
Belgian Fund	$1,036,709.62	$259,109.70
Red Cross	494,032.71	134,460.51
American Ambulance	388,743.00	
Polish Fund	77,699.35	45,988.24
Serbian Fund	64,670.77	30,266.25
Depage Memorial		624.00

BOSTON AND NEW ENGLAND.

Norfolk District Medical Society.—At the 65th annual meeting of the Norfolk District Medical Society, held May 11, at the American House, Boston, the following officers were elected: President, Dr. Matthew Vassar Pierce of Milton, Harvard A.B., 1877, Harvard Medical School, 1880; vice-president, Dr. Thomas F. Greene of Roxbury, Tufts '94; secretary, Dr. Bradford Kent of Dorchester, Harvard '02; treasurer, Dr. George W. Kaan of Brookline, Harvard '90.

Passage of Medical Registration Bill.—On May 12, by a vote of 120 to 77, the House of Representatives of the Massachusetts General Court passed to be engrossed the bill providing that no person shall be admitted to the practice of medicine in Massachusetts who is not a graduate of a duly chartered medical school with power to grant degrees.

Massachusetts Physician Sails for Serbia.—On May 15, Dr. Stanley H. Osborn of Peabody, Mass., sailed from New York aboard the *Athenia* to serve at Nish and Belgrade under Dr. Richard P. Strong in the Rockefeller Commission for the eradication of typhus fever. He graduated from Tufts Medical School in 1914.

ELECTION OF DR. WALCOTT.—At the annual meeting of the American Academy of Arts and Sciences, held in Boston on May 14, Dr. Henry P. Walcott, Cambridge, Mass., was elected president for the ensuing year.

REPORT OF THE CHILDREN'S HOSPITAL.—The forty-sixth annual report of the Children's Hospital, for the year 1914, contains the following statistics: Number of patients treated 2585, daily average 104; new patients treated in the out-patient department, 6776; number of operations, surgical 652, orthopedic 444, throat 788; social service department new cases, 936. The new hospital was fully occupied by the month of June. During the months from September to December the number of patients treated in the wards increased 44% and the out-patient visits increased 36% in comparison with the same months of the previous year, demonstrating the greater facility of the new hospital in treating cases with its added equipment and increased capacity. Legacies and endowments received during 1914 amounted to $64,014.40.

REPORT OF THE INFANTS' HOSPITAL.—The recently published report of the Infants' Hospital contains a record of its service from March 3, 1914, when the new Thomas Morgan Rotch memorial building was opened, to Jan. 1, 1915. During that time 303 babies have been received in the wards. The charitable work of the hospital,—caring for the sick babies of the poor,—is badly handicapped for lack of income. During the summer months the hospital was compelled to refuse admission to two sick babies every day, and the number has increased to three. As a means of increasing the income of the hospital various rearrangements were made to increase the accommodation for paying patients, and over $2500 was netted in this manner. There is a class of nursery maids carried on at the hospital, which provides a six months' course of training. The wet-nurse directory, formerly under the auspices of the Massachusetts Babies' Hospital, has been taken over by the Infants' Hospital. Forty-nine wet-nurses were admitted and forty-two were placed in families. That the work of the hospital should be restricted beceause of lack of funds, in a city where hospital provision for infants is limited, is deplorable, and it is earnestly to be hoped that adequate support may be forthcoming during the present year.

MILK AND BABY HYGIENE ASSOCIATION.—At the latest meeting of the board of trustees of the Milk and Baby Hygiene Association the following officers were elected: chairman, Charles E. Mason; secretary, Benjamin Loring Young; treasurer, F. Abbot Goodhue. George R. Bedinger, director, reported that during the first four months of 1915 the association cared for 2516 babies.

A SECOND EPIDEMIC OF TONSILLITIS IN DORCHESTER.—In the issue of the JOURNAL for May 6 we commented editorially on an epidemic of streptococcus sore throat then prevalent in the Dorchester district of Boston. There is at present a second similar, but smaller, epidemic in the same district, comprising about one hundred and fifty cases. It is believed by the board of health that the source of infection in these cases has been traced to two dealers dispensing unpasteurized milk obtained from dairies in Canton, Milton, Randolph and Stoughton, Mass. Pasteurization of this milk supply has now been ordered. It will be instructive to observe whether this procedure is followed by a cessation of the epidemic. The source of infection in the previous epidemic has not yet been authoritatively determined.

INDUSTRIAL THERAPY IN STATE INSANE INSTITUTIONS.—At the meeting of the American Medico-Psychological Association in Virginia from May 11 to 14, was shown a representative exhibit of the work of the state institutions under the control of the Massachusetts State Board of Insanity. This exhibit included a series of 353 articles,—brushes, brooms, boots, rugs, and examples of string work, basketry, embroidery, leather work, metal work, pottery and weaving. All these articles were made by inmates of the Massachusetts State Insane Hospitals and illustrate the methods of industrial therapy there employed. The recent bulletin (No. 9) of the Massachusetts State Board of Insanity for May, 1915, describes the further progress in application of this method. At the Westborough Sate Hospital the industrial workroom has been transferred from the basement, where the work was done before, to a large, airy and sunny room on the third floor. At the Grafton State Hospital the weaving of overall cloth has been added to the other industries.

FATAL POISONING BY AMERICAN WATER HEMLOCK.—The recently published monthly bulletin of the Massachusetts State Department of Health for February, 1915, contains a report of a case of fatal poisoning by the root of the American water hemlock, eaten by a farm laborer while at work in Milford, Mass. The poisoning was symptomatized by nausea, vomiting, vertigo, widely dilated pupils, convulsions, unconsciousness, coma and death in one hour after ingestion, the amount eaten being about an ounce. On investigation the plant proved to be the American water hemlock (*cicuta maculata*), commonly known as spotted cow bane or beaver poison.

"It is one of the commonest of our meadow and swale plants, and variously referred to as water hemlock, wild hemlock, cowbane, beaver poison, musquash root and muskrat weed. In several instances children have been fatally poisoned by eating its roots, which have been termed "children's bane." The plant is often erroneously referred to as "wild parsnip." It is closely

allied to the less common and somewhat less virulent poison hemlock (*Conium maculatum*) with which Socrates was put to death. A related plant, *Sium cicutaefolium*, which grows with *Cicuta* or in similar habitats, has similar roots which were eaten by the Indians. In the winter and spring, when the roots are well filled, the Indians distinguished the two plants by the old stalks. The stems of *Cicuta*, the poisonous plant, are cylindric and quill-like, those of *Sium* strongly corrugated or furrowed.

The roots of the American water hemlock consist of several oblong, fleshy tubers, spreading out from the base of the stem. They are among the first green substances to appear in the spring, and are eaten chiefly by herbivorous animals. They are mistaken by human beings for parsnips, because of their odor and texture, artichokes, sweet cicely, horse-radish, or other edible roots."

In the year book of the United States Department of Agriculture for 1896 is reported another similar case of poisoning by the American water hemlock.

New Hampshire State Medical Society.—The 124th annual meeting of the New Hampshire Medical Society was held in Memorial Hall, Concord, N. H., on Wednesday, May 19. The first meeting of the house of delegates was held the previous evening at the Eagle Hotel. The general sessions on Wednesday were opened at 10 a.m., with an address by the president, Dr. Herbert K. Faulkner of Keene. At 11 a.m. the simultaneous sessions of the sections on medicine and surgery were opened and a number of interesting papers were presented by members of the society. Another general session was held at 2 p.m., at which there were addresses by Dr. Allan J. McLaughlin, Massachusetts State Commissioner of Health, on "Preventive Medicine," and by Dr. John B. Blake of Boston on "Surgery of the Spleen." The oration in medicine was delivered by Dr. Alexander Lambert of New York on "The Equilibrium of the Circulation" and the oration in surgery, by Dr. William S. Bainbridge of New York on "Chronic Intestinal Stasis." Between the morning and afternoon sessions the women members and the wives of visiting members were entertained at luncheon at the Memorial Hospital by the hospital trustees. The annual banquet was held at the Eagle Hotel at 7 p.m., preceded by an informal reception. The usual exhibition of books, surgical appliances, drugs and foods was held during the meeting in the basement of Memorial Hall. On the date of the meeting the New Hampshire Historical Library, the Friendly Club, the Woman's Hospital, the Margaret Pillsbury Hospital, and the New Hampshire State Hospital were opened for inspection and rest.

Massachusetts Medical Society.

Social Service Institutes.—Following the joint meeting of committees from the Massachusetts Medical Society and the Massachusetts Federation of Churches, recently reported in the Journal, there have been three social service institutes arranged by the Federation of Churches, at each of which a physician has been given a prominent part in the program. The first was at Springfield on March 10, the second at Middleboro on April 14, and the third at Littleton on April 26.

In each meeting the stress of the address has been upon the need of a trained health officer in each city and town.

Miscellany.

VETO OF THE CLEAN MILK BILL.

The following represents in part the text of Governor Walsh's message to the State Senate on May 20 conveying his veto of the so-called Labor Clean Milk Bill, which is commented upon editorially in another column of this issue of the Journal:—

"Although from its title the bill appears to be mainly aimed at the distributers of dairy products, a study of its provisions will show that its heaviest penalties are reserved for the producer, who, in addition to the fine and imprisonment to which dealers are made liable, is exposed to the risk of being obliged to choose, on a very few days' notice, between undertaking a possibly heavy expense in order to conform his buildings to an undetermined sanitary standard discretionary with either the State Board of Health or a local board, or as an alternative accepting his sentence and abandoning his business.

"Such being the case, it is necessary to consider whether a measure so drastic is really needed for the protection of the public health, and whether, on the other hand, it might not reasonably be expected to aggravate the very evil which its advocates aim to remove.

"I yield to no one in my anxiety to secure for the children of our state a pure and abundant supply of milk at a reasonable price. This object, however, I am thoroughly convinced, cannot be obtained by further penal legislation, but only by encouraging and developing the production of nearby milk through constructive legislation, such as I hoped would be worked out and submitted to the Legislature by the special commission for which I asked earlier in the session.

"My specific objections to the present bill are these:—

"First: That the State Board of Agriculture and the Dairy Bureau, the authorized representatives of the agricultural interests, are opposed to its enactment.

"Second: The State Department of Health has not initiated any legislation on the subject, and should be given time and opportunity to study the question before further legislation is adopted.

"Third. As the bill carries no appropriation and provides no new facilities for inspection, but merely exposes producers and dealers to new and ill-defined perils, it tends to terrorize the farmers and milk-producers of the state, without adding any protection to the consumer, and can have no other effect in my judgment than to drive many self-respecting dairy men out of business and materially increase the price of milk.

"Fourth: It is a well-established fact of bacteriology that disease germs multiply at almost incredible rates in milk and cream at ordinary temperatures when once introduced in them, and that it is therefore of the utmost importance from a sanitary standpoint that milk should reach the consumer in as few hours as possible after its production. This bill discourages the production of nearby milk, tends to increase the average of milk consumed, and thereby increases rather than lessens the danger to the public health.

"Fifth: The bill discriminates against Massachusetts producers, since if convicted, a Massachusetts man becomes a criminal, while the out-of-state man escapes with the exclusion of his product from the state, a matter already fully provided for in Chapter 755 of the Acts of 1914.

"Sixth: I find experts of the highest standing agreed that dairy inspection alone fails to provide any adequate protection against the spread of disease in milk, while laboratory tests of the product itself have proved of great value, This bill in my judgment will not improve the quality of our milk supply one iota, since it deals only with the conditions of production, without any attention to the actual quality of the product.

"Seventh: The farmers of the commonwealth are as honorable and law-abiding a class of citizens as any other, and this legislation is certain to penalize and humiliate them in a way that they have not deserved. The milk produced by our farmers is as clean and wholesome as that produced in any other part of the country, and they should not be compelled to submit to inspection and regulation that are unnecessary and that do not take into account the quality of the milk product itself.

"Eighth: There is already an ample amount of penal and regulative law upon this subject. The Bureau of Animal Industry is empowered and directed to see to it that milch cows are free from disease and stabled under sanitary conditions. I have yet to learn that any local board has failed to do its duty under the present laws.

"As a whole, this bill affords an apt illustration of the difficulties that are likely to result when private individuals or organizations, however zealous and well-meaning, attempt to shape legislation in the public interest without the aid and guidance of the state departments created and maintained for the express purpose of protecting these very interests.

"It is argued that the danger of unjust prosecutions under the pending bill is obviated by the provision giving immunity unless the person complained of has first been warned against committing the offence; but as the bill is worded it seems that the warning need only be a general one not to deal in 'any such milk,' and that a person who has once received such a general warning would be fully liable to punishment if any milk subsequently found in his possession could be proven by its bacterial content or on direct evidence to have been produced or handled under improper conditions, even though he neither had, nor from the nature of the case could have, any knowledge or warning of the existence of such conditions affecting that particular milk.

"We have a state department of health, headed by a physician of world-wide reputation in this very field of the prevention of communicable diseases, aided by an expert of nation-wide reputation on communicable diseases, and an advisory council whose fidelity and ability are unquestionable. If this board, after a careful study of the entire situation, shall consider additional legislation advisable, it will doubtless recommend a thoroughly digested measure to the next Legislature, free, it is to be hoped, from the glaring faults of the pending measure and several of its predecessors.

"Clean milk for the babies and invalids is a great necessity, but legislation hostile to the dairy industry, without obtaining clean milk, may prevent thousands of babies in the Commonwealth from receiving any milk at all because the price may become prohibitive to our poor people.

"The decline in this industry has been constant and alarming, the number of milch cows is yearly decreasing, and I am convinced that it is in a large part due to the fact that constant legislative agitation has alarmed our farmers and made the business for the producer and small dealer not only unprofitable but almost discouraging.

"What we need in Massachusetts is not more inspection or penalizing, but laws tending to educate and encourage the dairy industry in order that we may have not only clean milk but an abundance of it at reasonable prices."

"I feel certain that many of the communications and endorsements that have come to you and to me in favor of this legislation have been influenced by the very name with which the bill

has been labelled in the popular mind, namely, 'The Labor Clean Milk Bill.' By using the words 'labor' and 'clean milk' a sentiment can be aroused in any community in favor of proposed legislation.

"I am thoroughly convinced that the measure is without merit and involves a very serious injustice to a large element of the community engaged in an honorable and legitimate occupation. No results will follow its enactment to improve the condition of milk in this commonwealth, but on the contrary any such legislation is certain to injure the dairy industry materially and lead to increased cost in the price of milk."

AMERICAN ACADEMY OF MEDICINE.

The fortieth annual meeting of the American Academy of Medicine will be held at San Francisco on June 25 to 28, in conjunction with the meetings of the Pan-American Medical Congress and the American Medical Association. The presidential address will be delivered by Dr. Woods Hutchinson, and the annual address on "The Relation of Medicine to the Peace Movement," by Dr. David Starr Jordan. There will also be addresses by Dr. Rupert Blue on "The Prevention of Oriental Diseases in the Ports of America"; by Dr. Victor G. Heiser on "Hookworm Disease and Its Relationship to Immigration and Commerce in the Philippines"; by Dr. W. C. Rucker on "The Transmission of Typhoid on Trains and Steamboats"; by Dr. W. A. Sawyer, of Berkeley, Calif., on "The Disease Carrier on Train and Steamboat"; and by Dr. Richard P. Strong of Boston on "The Need of Medical Conquest for the Establishment of Commerce."

At its previous annual meeting, on June 22, 1914, the Academy, which was founded as a society for the study of questions of social medicine, adopted the following report of its committee on policy with reference to its future.

"The American Academy of Medicine has specialized in medical sociology for the last eight years. The work done has been of the greatest importance. The publications of the academy have won a high place and are in constant demand. The revised constitution and by-laws make it possible for us so to extend our membership as to include as fellows all physicians who are interested in this phase of medicine and, in associate membership, all workers in the field of sociology who recognize that scientific medicine is fundamental to all inquiries and investigations of abnormal social conditions, and that the cooperation of the physician is essential for the successful administration of measures for the correction of conditions which interfere with human efficiency.

"We believe that the field of sociologic medicine is so large that it can only be satisfactorily covered by a national society of the broadest scope and with the widest conception of the nature of the work before it. We believe that the American Academy of Medicine is the legitimate one to expand into such an organization.

"Therefore your committee recommends that the American Academy of Medicine continue in the field of medical sociology. . .

"Your committee further recommends that the academy take up, together with as many other organizations as can be interested, at least the following phases of medical sociology.

"1. The child and its relationship to society.
"2. The medical aspects of education.
"3. The social inefficient.
"4. Legislation and medicine.
"5. Medicine in its relationships to industry, trade and commerce.
"6. Civilization in its effects on morbidity and mortality."

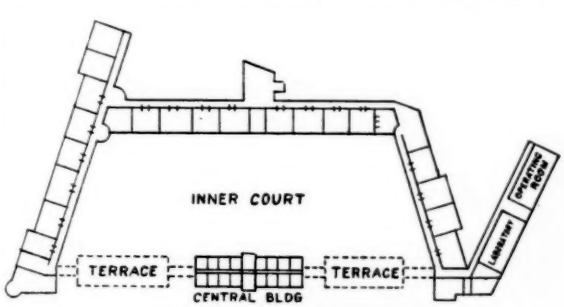
Correspondence.

THE HARVARD UNIT AT THE AMERICAN AMBULANCE IN NEUILLY, PARIS.

Paris, April 8, 1915.

Dear Mr. Editor: We have been here two weeks and you may be glad to have a few words of our early impressions.

Photographs of the Lycée Pasteur you have seen, but it is a surprisingly large place, and none of those that were circulating at home serve to give an idea of its extent. A better idea may be given by the bird's-eye view which I enclose, taken from a tall apartment across the way on the Boulevard Inkermann. Since Crile's sojourn here the entire third floor is given over to the University Units, and in order that you may have some conception of the space at our disposal, this sketch of the floor plan may help you—for, though admirably adapted for its present purposes, it is a most labyrinthine place, and owing to the wings, one's orientation is readily confused, even after a week's occupancy. This is particularly



Lycée Pasteur, Third Floor Plan.

so because the corridors on the two sides adjoin the court and that on the long side is away from it.

We have supervision of the 18 small wards on this floor with a capacity of 162 beds. Our operating room and laboratory, both of ample size and well lighted, are *au troisième* in the adjoining wing above the chapel, where, I may add, you are Catholic if you face one way and Protestant if you face the other. A very readable book, in the form of a diary, from

Aug. 3 to Dec. 31, *La Guerre vue d'une Ambulance*, has been written by the Aumônier, l'Abbé Félix Klein.

The present capacity of the hospital is about 500, divided into four services, under Dr. duBouchet, who is surgeon-in-chief and is responsible to the military authorities—for the hospital, as you know, is under a military and not a Red Cross organization—Dr. Blake, Dr. Mignot and ourselves. There are at present some 450 wounded, mostly from the French forces, including those from Africa. There remain a few "Tommies," relics of the battle of the Marne days when this Ambulance was almost a first-line hospital, but there are no longer any wounded Germans, they being sent to special hospitals—to Val de Grace, I believe, and elsewhere; for they require a military guard, and there are uncomfortable stories regarding Turcos and Germans kept under the same roof.

We did not quite overlap our predecessors, for they sailed on the first and, therefore, had to leave two or three days before our arrival. But the wards had been purposely somewhat emptied for us so that we started in with only about 100 *blessés*. Naturally our first visit among them was of extraordinary interest to us on a personal as well as a professional side. Every individual story was so appealing and fascinating as to make it difficult at first to concentrate one's attention on the lesion and the actual condition of the moment—in what engagement the man was injured,

Lycée Pasteur, Neuilly, Paris. Ambulance Américaine.

what he was doing at the moment, with what sort of a missile he was hit, where he got his first aid, through what hospitals and what hands he had gone on his way here from the time he was tagged with a pink or a white ticket at the *Poste de première secours*, how long since he had had his clothes off, since he'd had a bath and so on.

Though there are many exceptions, I should say that the cases fall into three regional groups,—wounds of the upper and of the lower extremities, and of the jaws. There are a number of cranial injuries, some of them of great interest, a ward full of hopeless spinal paraplegias—a sad place—many chest cases also; but the majority of the wounded in a hospital this far from the line at present will fall into the three groups mentioned. We are a little too late to see the frost-bitten or "water-bitten" feet which a few months ago must have been overwhelmingly numerous, for there are still a number of them not yet entirely recovered which are holding over; all sorts of tender feet with acroparaesthesias and erythromelalgia-like phenomena which would make an interesting study in themselves. A man with deformed toes, due to wearing *sabots* in childhood, as is the case with one of our patients, wearing none too well fitting army shoes, tight puttees in addition, with some resultant venous stasis, standing for hours or days in cold water or mud in the trenches and without having his shoes off for weeks perhaps—well you can imagine the result. Good feet to get about on and good teeth to crunch crusts of bread are two of the essentials to efficiency. Without these a soldier doesn't get back at all, whereas a few *balles de fusil* can go through him and he's in the line again after a few days.

Even among the wounded in our wards one sees every kind of a fracture in every situation from all sorts of missiles—or from none at all, for men may be injured in this dangerous trade of warfare in many ways: as by the falling in of arbored trenches when blown up by a shell, without being actually hit themselves. One of our patients, for example, has some broken ribs from the kick of a horse; another a broken jaw from the butt end of a musket, but the majority have "amassed souvenirs in the shape of lead and spears,"—you remember Kipling's "Father Bobs" I am sure,—shrapnel, pieces of *obus*, often of amazing size, pointed German jacketed bullets—sometimes even the solid brass French bullets—and all other conceivable things. A routine x-ray examination is of course necessary and the Roentgenological department, like all other departments here for that matter, is admirable, being under the direction of an expert, Dr. Jaugeas, who, from the first, has given almost his entire time to the work—and this is the rule, not the exception. Cutler sent one of our cases to him the other day, needlessly I thought, for the man had a little wound over the mastoid which had nearly healed and there were no especial symptoms. The x-ray disclosed an unsuspected shrapnel ball in the cerebellum. His record stated that he had been hit by a small fragment of shell which had been removed at the *Ambulance de première ligne*.

There are naturally all sorts of bizarre wounds. Thus, one of the men, with a wound through the face, jaw and neck, where the bullet emerged after dividing the cervical sympathetic, received from the same projectile, as was supposed, a compound fracture of the acromian where the x-ray showed what was thought to be the jacket of the bullet; but it proved to be the deformed metal button of his shoulder strap which had been set in flight by the original ball after it had traversed his head. Stories of these bizarre effects might be multiplied without end.

The explosive fractures of the long bones are, of course, in many cases dreadful, and those from shrapnel, and fragments of *obus* inevitably infected, but I fear that your correspondent who signs himself "S." has greatly exaggerated the helplessness of the surgeon in these cases. The mortality is really very low and the amputations relatively infrequent even when there is gas infection. The story is of course different when there is actual *gangrène gazeuse*, which apparently is an accompaniment of great tissue destruction with associated circulatory disturbances from thrombosed and damaged vessels. But, at the best, the healing of these bad fractures is a long tedious affair with the almost inevitable osteomyelitis and necessary wait for separation of fragments. Then too, almost every case has some associated paralysis. This is particularly true of the upper arm fractures in which a musculo-spinal paralysis almost always occurs, even when the nerve has not been touched, and indeed actual divisions of the nerves are comparatively rare. I estimated during our first few days that nearly 50% of our wounded had a concomitant neurological lesion of more or less major type. Then, too, for Osgood in particular, among the members of our Unit, there are problems of absorbing interest, for almost every patient has some joint trouble from long fixation, or some deformity which is capable of alleviation in his skilful hands, and he has been very busy in consequence.

It is a great regret that we did not succeed in bringing a dental surgeon with us, for of all the opportunities of an unusual sort which the hospital presents, this is, I think, the greatest. Under the direction of Dr. Hayes the dental department at this Ambulance has struck out into entirely new fields and has done such admirable work that the authorities send here a great many of the bad fractures of the upper or lower maxillae. There must be at least 50

of them now under treatment, from poor creatures with their entire lower jaw blown away to fairly simple fractures with the teeth out of alignment. Dr. Hayes has indefatigably given practically his entire time since August to this work and had a number of men associated with him and needs more. It is a form of major surgical work assumed by the dentist which places him on a level with the surgical specialist in any other line, and the work cannot be too highly praised. The U. S. Government should make every effort to send over our army surgeons to receive instructions in this work if in no other, for it is important and new.

The effectiveness of our contingent has been greatly crippled by the loss of Strong who, though here for 10 days and giving us as much of his time as possible meanwhile, was nevertheless occupied intensely on matters relative to the preparation of his expedition to Serbia. We had planned to make some special studies of the gas infections, a problem the importance of which we did not fully realize before leaving home and which Rogers and Benet will attempt to carry out on the lines Strong has laid down. The opportunity is exceptional, for no one seems as yet to have even culturally differentiated the various strains with which these wounds are infected. They are all grouped as *B. perfringens* rather than as varieties of the *B. aerogenes capsulatus* as Americans would like to see them.

The expedition of which Strong will doubtless be given the leadership has assumed proportions of an international scope and I may say that nothing but praise of him is heard on all sides—not alone for the sacrifice he is making but for the evident capacity of leadership and quick grasp of situations which he has shown. The Sunday before he left I had the good fortune to go with him in a military motor up to Amiens and from there along back of the line in several places on a *laissez-passer* of broad scope from the war office, which gave us an exceptional chance to see the various grades of hospitals and the system of transportation of wounded from those at the first line back to the base. They are at present getting typhoid well under control through compulsory vaccination, which was not adopted till the end of the year. One of the physicians estimated that there had been 70,000 in the French army in the last months of 1914. There were about 4000 at the large hospital at Amiens alone.

In these front line hospitals, too, one sees the severe cases—cranial, spinal, and abdominal which cannot be evacuated to the more remote hospital centres. The mortality of the severely wounded is, of course, high, whereas at the Ambulance at Neuilly, where less severely wounded cases are now received, there have been, I believe, only 81 fatalities, most of them occurring in the early months during the fighting along the Marne close at hand. Our first admission on April 1st was a man with *obus* injury of the occiput, causing hemianopsia, his number being 1387, which would make a percentage mortality of 17 for the entire series—high enough surely. With the present run of cases it would, of course, be very much lower.

I think our men have all done very well and I am sure the expedition will prove a credit to our hospitals and the University, and it is possible that we may be able to secure valuable material for the Warren museum, already rich in pathological material from former wars. Whatever misgivings we may have had before leaving of the wisdom of our coming, vanished the day of our arrival; and I think the Ambulance officials are appreciative of our desire to make our work as effective as possible. Greenough has managed our affairs with great executive ability and by common consent has been made our visiting chief. Five of the men, Cutler, Coller, Barton, Wilson, and Petersen, are "living in" at Neuilly, and the rest of us are comfortably housed in Paris not far away.

One of the French surgeons who was looking on at an operation the other day in which Boothby was giving the anesthetic intranasally with the Connell apparatus, said to me "We know nothing about giving anesthetics in France." It is a satisfaction to feel that we may be helping in this respect and indeed our operating room, owing to the installation of this apparatus, has already become a centre for operations on the head and face. Crile also helped the Ambulance greatly in this respect and his anesthetist, Miss Hodgins, is still here giving instruction in gas-oxygen administration.

Well, Mr. Editor, I have scrambled through this letter, which I shall hardly venture to reread, with much that I would like to say still unsaid. In this place, unquestionably the best of the four or five hundred auxiliary hospitals established in Paris, there is a most amazing aggregation of talent, and to follow a poor wounded devil in his dirty uniform, brought in in a Ford ambulance by an upstanding young ambulance driver—a college graduate likely enough—from some distributing point, to see him recorded by the indefatigable Mr. Kollman, then stripped and given a bath, well lathered in a tub by one James Jackson, formerly engaged in some mercantile pursuit and jokingly dubbed K. C. B., then taken to his bed, where he quickly falls into an exhausted sleep, by orderlies who may be young architects or artists or sons of aristocratic families, shaved and clipped by a barber who accepts no fee, cared for in countless ways subsequently by attractive, skilled and effective attendants, men and women of all walks, but serving with whole-souled devotion—it all is a most creditable thing for American enthusiasm and prompt action to have put through: and its accomplishments and effectiveness will justify all the support it has so generously received and will continue to receive from home.

And of the French wounded themselves too much cannot be said in praise. They are as a whole the most uncomplaining, courageous and appealing lot of men that can be imagined and well deserve all that anyone can do for them.

Sincerely yours,

HARVEY CUSHING.

POTASSIUM PERMANGANATE: ITS COOLING EFFECT UPON THE SKIN.

BOSTON, May 12, 1915.

Mr. Editor: Summer is coming, and with it is sure to come a certain amount of hot, sticky weather. This sticky, high humidity heat affects the human in one of two ways, according to whether he or she is a thin carnivore or a fat herbivore. The carnivore who perspires little or not at all suffers from headaches and prostration, while the herbivore sits placidly amid streams and puddles of perspiration, his worst suffering perhaps being due to chagrin at the rapid ruination of erstwhile immaculate collars and cuffs. Gregg has recently remarked upon this type difference to humid heat, as observed during a residence in the Philippines. To put the two types upon something like an equality of discomfort, the carnivore must be induced to perspire, a phenomenon perhaps most easily accomplished by the use of judicious amounts of alcohol: by judicious amounts is meant not more than a sherry glass of claret, madeira, or other similar beverage, taken at the oftenest not more than once in every four hours and perhaps best only with or after meals or three times daily during the excessively hot weather. Having thus induced perspiration and relieved the headache of the carnivore by internal medication, the question arises, can anything further be done to promote comfort in the dog-days? This question assumes that the usual methods have been exhausted.

The answer is a decided yes. If, under the conditions above stated, one wishes to experience in the hottest and wettest weather available, a sensation as of a drop in temperature of say ten degrees with cor-

responding relief from the effects of humidity, it is necessary only to take a bath in or rub down with a weak solution of potassium permanganate. This may be followed by a shower or wash with plain water. The result will justify the effort of the procedure, and it is especially valuable as a means of promoting sleep at night.

This proposition very likely is known to many, but it is at least in this case the accidental discovery of the author and seems not to be known to any of his medical friends unless through personal conversation on the subject. For this reason, and with a marked increase in comfort so easily obtainable, it has seemed worth while to present this simple expedient in the hope that a few persons and particularly invalids may thereby receive the benefit from its application.

Arriving one day on an errand of medical necessity at Batavia, some years ago in the midst of the Javanese summer, the writer found the climate both hot and wet as was to be expected. One of the provisions for the entertainment of the tourist was, and doubtless still is, endemic cholera. This necessitated certain precautions. For instance, sulpho-naphthol was used rather freely upon floors, and fruit for the hotel table was always exposed to live steam. Also, the bath water always contained enough permanganate to give it a good reddish-brown tint. According to the custom of the country, a splash bath is taken: one stands upon a wooden grating and with the aid of a dipper throws over one's shoulders from a large tub at the side which is refilled daily. Permaganate is used in order to dampen the ardor of what germs may be present in this tub of water. All this is perfectly proper. The surprising feature of the use of this solution was its immediate cooling effect, lasting for some hours. At first it was dubious if the permaganate was really the active agent in producing the sensation of the drop in temperature, but repeated use of the solution for bathing purposes left no room for doubt, and recurring summer heat, both in this country and in Europe, has only provided opportunity for confirming the experiment and proving that permanganate has a very active value as a cooling agent.

The fact has been sufficient, but doubtless the mode of action is at least in part by the removal of all grease from the skin with better opportunity for loss of heat from the body. To try the experiment is to be convinced. It is only necessary to buy a few crystals of permanganate and make a saturated solution. Pour enough of this solution into a wash bowl to give the water a pale pink or reddish tint, rub down with a wash cloth, and follow with a shower or bath as desired. A solution strong enough to be effective can be used without discoloring the receptacle, or if necessary any stain is easily removed by the use of a little oxalic acid solution.

Potassium permanganate in weak solution is a valuable wash for external application in hot humid weather. Its use in conjunction with the customary bath greatly promotes comfort by day and sleep by night at a time when both comfort and sleep are at a premium.

Very truly yours,

JOHN BRYANT, M.D.

CORSETS, PTOSIS, AND SACRO-ILIAC STRAIN.

78 MARLBOROUGH STREET, BOSTON,
May 13, 1915.

Mr. Editor: I have just read with much interest the communication from Dr. Eben W. Fiske in your issue of this date in regard to my recent article in the JOURNAL on corsets, ptosis, and sacro-iliac strain, and cŏrdially appreciate the courtesy of his criticism and his temperate statement of the position which he takes. I would not for a moment presume to dispute or differ with the opinion of Dr. Fiske, or of any other orthopedic expert, on the mechanics of the production of postural defects or of the modes of their correction. My paper was intended merely to present my personal experience and observation in dealing with such cases, especially in women in a gynecological clinic.

In your editorial note to Dr. Fiske's letter you called attention to one point in my paper which, through incomplete quotation, may have been misapprehended. My classification of corsets into those that lace in front and those that lace *only* behind, was not intended to condemn corsets, of which there are several styles, which lace both front and back. Many patients prefer a corset with a laced back to one with a solid back on account of its being cooler; and I find no objection to such a corset provided it laces also in front. It is my belief, however, that only the front laces, and never the back laces, should be used, at least by the patient, for adjustment of the corset after it has been put on. From my experience I am not disposed to believe it possible for a patient, in any posture, to adjust her own corset as effectively with a back lace as with a front lace, though I would not for a moment deny that this may be done by an expert surgeon.

Neither can I bring myself to believe, in spite of Dr. Fiske's exposition, that it is possible to correct ptosis as effectively with any corset applied in the standing posture, as in the recumbent posture. The flesh of the abdominal wall may be lifted by the former method, but it is not this sagging flesh which constitutes the ptosis. Prolapsed abdominal viscera cannot thus be raised. For their replacement it is essential that gravity, by elevation of the hips in a recumbent posture, should first be employed to transfer the sliding viscera upward towards the diaphragm. The corset, properly applied in this posture, then splints the abdominal wall, so that the viscera cannot again prolapse when the patient stands up. At the same time, I believe such an application of a good corset, by splinting the pelvis, relieves the pain of sacro-iliac strain and, if combined with proper shoeing, tends to correct the postural defect, which has contributed to the production and establishment of the ptosis.

As I have said, my original paper was intended merely to present personal gynecologic experience and observation, not to lay down categoric or universal rules of procedure. It is obvious that conditions differ widely in different classes of patients and, as Dr. Fiske has felicitously pointed out, that different surgeons obtain equally good results by diverse methods. I am exceedingly grateful to Dr. Fiske for his valuable contribution to the discussion of this question and shall feel more than satisfied if my imperfect presentation of the subject may lead to a wider interest in and recognition of the importance of conditions of ptosis and postural defect as complicating or simulating other pathologic complexes.

Very truly yours,

ROBERT M. GREEN, M.D.

THE CHANGSHA YALE HOSPITAL.

CHANGSHA, CHINA, April 6, 1915.

Mr. Editor: May I ask the favor of your courtesy to state something of the situation in medical education in China. The Medical Commission of the Rockefeller Foundation has recommended support by the Foundation of four centers for medical education in China. One of these four is the Hunan-Yale Medical College and Hospital at Changsha, the capital of Hunan Province. This institution represents a joint agreement between Yale-in-China and a society of Chinese representing the Hunan government, for the development of a first-class school of medicine, nursing schools for men and women respectively, a modern teaching hospital, and a diagnostic and research

center for central China. The hospital, medical preparatory school, and nurses' schools are now in operation. The standards are the highest possible. The aim is quality and not quantity of work.

The support of the Rockefeller Foundation and the rapid growth in Changsha make a large increase in the medical and nursing staff necessary within the next two years. Both laboratory and clinical branches require trained men. Dr. Hume, the head of the Yale-in-China medical staff, will be in the United States until August 1, and will welcome inquiry from qualified applicants, or from men now graduating in medicine or in hospital positions, who wish to investigate these great opportunities in the Orient. Address, Dr. E. H. Hume, 5 White Hall, Yale University, New Haven, Conn. The scope of the Hunan-Yale institution is not limited to Yale men by any means.

Very truly yours,

ALFRED C. REED, M.D.

BELGIAN PHYSICIANS' RELIEF FUND.

REPORT OF THE TREASURER OF THE COMMITTEE OF AMERICAN PHYSICIANS FOR THE AID OF THE BELGIAN PROFESSION FOR THE WEEK ENDING MAY 15, 1915.

CONTRIBUTIONS.

Dr. Franklin B. Miller, Pittsburg, Pa.	$ 25.00
Dr. N. S. Jarvis, Captain U.S.A., New York	15.00
Dr. Charles G. R. Jennings, Elmira, N. Y.	25.00
Dr. H. E. Jenkins, P. A. Surgeon, U.S.N., Port Royal, S. C.	5.00
Dr. Luther G. Paul, Boston, Mass.	5.00
Dr. M. C. Smith, Lynn, Mass.	5.00
Arkansas Medical Society, Little Rock, Ark.	50.00
Dr. Charles Henderson Miller, Chicago, Ill.	10.00
Receipts for the week ending May 15	$ 140.00
Previously reported receipts	6720.50
Total receipts	$6860.50
Previously reported disbursements:	
1625 standard boxes of food @ $2.20	$3575.00
1309 standard boxes of food @ $2.30	3010.70
Total disbursements,	$6585.70
Balance	$ 274.80

F. F. SIMPSON, M.D., *Treasurer*,
7048 Jenkins Arcade Bldg.,
Pittsburg, Pa.

CHANGES IN THE MEDICAL CORPS, U. S. NAVY, FOR THE THREE WEEKS ENDING MAY 15, 1915.

April 24, Asst. Surgeon A. E. Man, M.R.C., detached, Naval Medical School, Washington, D. C.

April 26, P. A. Surgeon E. U. Reed, detached, Marine Recruiting Station, Detroit, Michigan, to *Maine*.

April 27, P. A. Surgeon T. G. Foster, detached, Naval Disciplinary, Barracks, Port Royal, S. C., to *Chester*.

Asst. Surgeon J. T. Boone, detached, Naval Medical School, Washington, D. C., temporary duty, Naval Training Station, Norfolk, Va.

April 23, Surgeon J. D. Manchester, to Naval Hospital, Portsmouth, N. H.

April 30, Surgeon J. M. Brister, detached, *Kearsarge* to *Alabama*.

Asst. Surg. M. H. Sicard, M.R.C., commissioned April 12, 1915.

May 1, Surgeon J. R. Dykes, placed on retired list of officers of the Navy, from April 27, 1915, to home.

May 5, Asst. Surgeon W. A. Stoops, M.R.C., detached, Naval Hospital, New York, to temporary duty, Naval Hospital, Newport, R. I.

May 8, Medical Director, C. H. T. Lowndes, commissioned from April 18.

P. A. Surgeon T. G. Foster, detached, *Chester*, to Atlantic Reserve Fleet.

P. A. Surgeon H. L. Brown, detached, *Alabama* to *Chester*.

May 11, Surgeon C. E. Ryder, to Naval Training Station, Great Lakes.

Surgeon R. R. Richardson, detached, Great Lakes Training Station, Naval Hospital, Las Animas, Col.

P. A. Surgeon D. C. Walton, detached, Academy, June 7, 1915, to *Ohio*.

Asst. Surgeon S. D. Hart, detached, Naval Hospital, Las Animas, Col., to wait orders at Washington, D. C.

NOTICES.

DOCTORS FOR DUTY IN A BRITISH BASE HOSPITAL.

Harvard, Columbia and Johns Hopkins Universities propose to provide a surgical unit to take charge of a base hospital for British wounded, and for that purpose there is desired a staff of thirty-two surgeons; sixteen of those will preferably be well trained fourth-year graduates or house-officers having just completed a surgical service. The expedition will start between June 5 and 15. The Harvard contingent will take the first detail for a minimum service of three months. Preference will be given to men willing to stay six months.

The service will be either in England or in France, depending upon exigencies. Transportation both ways will be paid, and men will be given regular army pay. Men wishing to join the expedition will please apply in writing to Dr. Edward H. Nichols, 294 Marlboro Street, or to Dr. C. A. Porter, 254 Beacon Street, or to Dr. Wm. E. Faulkner, 290 Marlboro Street, stating their age, medical education and surgical training.

NURSES FOR DUTY IN A BRITISH BASE HOSPITAL.

Harvard, Columbia and Johns Hopkins Universities propose to provide a surgical unit to take charge of a base hospital for British wounded, for a period of six months. The expedition will start probably sometime between the first and the fifteenth of June.

For this unit there is desired a staff of seventy-five trained nurses, consisting of one matron, twenty-six sisters (head nurses), and forty-eight ward nurses.

Nurses will be paid regular army rates: sisters, "head nurses," 50 pounds per annum; staff nurses, "ward nurses," 40 pounds per annum. Free transportation to and from the hospital, probably an American ship will be provided.

The service will be for a minimum period of three months, and preference will be given to nurses agreeing to serve for six months. The service may be in England or in France, depending upon exigencies.

Nurses wishing to join this unit, will please apply in writing to Dr. E. H. Nichols, 294 Marlboro Street, Boston, stating their training and experience with references to doctors for whom they have worked. Nurses who have had special operating room experience, will please so state.

SOCIETY NOTICES.

MASSACHUSETTS SOCIETY OF EXAMINING PHYSICIANS AND SURGEONS.—Meeting at the Boston Art Club, May 27, 1915. "Unusual Cases of Intracranial Hemorrhage."

Speakers: Drs. G. B. Magrath, Timothy Leary, Wm. C. Whitney.

J. H. STEVENS, M.D., *Secretary.*

HARVARD MEDICAL ALUMNI ASSOCIATION.—At the coming meeting of the American Medical Association in San Francisco there will be a table d'hôte luncheon at the University Club, the date to be announced later, for members of the Harvard Medical Alumni Association. Dr. William P. Lucas of the University of California, San Francisco, is in charge of the arrangements.

A. B. EMMONS, 2D, M.D., *Secretary.*

PSYCHOPATHIC HOSPITAL MEETING.

On May 27, from 4 to 6 p.m., there will be held at the Psychopathic Hospital, 74 Fenwood Road, Boston, a meeting on the subject of neurosyphilis, Dr. Abner Post presiding. The program will consist of a discussion of social service methods and results by the staff of the out-patient and social service department, of clinical diagnosis by Dr. H. C. Solomon and other members of the staff and of post mortem studies by the members of the staff with the aid of the pathological service of the State Board of Insanity.

APPOINTMENTS.

AMERICAN COLLEGE OF SURGEONS.—*Dr. John G. Bowman* has been appointed director of the American College of Surgeons, with executive offices at 30 North Michigan Avenue, Chicago.

AMERICAN HOSPITAL ASSOCIATION.—*Dr. H. T. Summersgill,* superintendent of the University of California Hospital, has been appointed to succeed the late Dr. W. O. Mann of Boston as president of the American Hospital Association.

HARVARD UNIVERSITY.—*Dr. Richard Pearson Strong* has been appointed regular professor of tropical medicine.

MASSACHUSETTS STATE BOARD OF LABOR AND INDUSTRIES.—*Dr. Thomas F. Harrington* of Boston, at present director of school hygiene in the Boston Public Schools, has been elected deputy commissioner of labor and industries in the Commonwealth of Massachusetts.

RECENT DEATHS.

DR. WILLIAM H. FORWOOD, who died on May 12, at Washington, D.C., was born in Delaware in 1838. He received the degree of M.D. from the University of Pennsylvania and in 1861 entered the Northern army as assistant surgeon and served throughout the Civil War. He subsequently saw service in various Indian campaigns and in 1883 was a member of the expedition which explored Wyoming. In the Spanish War of 1898 he located the military hospitals at Savannah, Ga., and at Montauk Point. Prior to 1891 Dr. Forwood, who had then attained the rank of colonel, was chief surgeon of the department of California. Subsequently he was promoted to brigadier-general, and in 1902 served as surgeon general of the United States Army.

DR. MAX BERNHARDT, professor of neurology at the University of Berlin, died recently in that city at the age of 70 years.

DR. JOHN J. GALLAHUE, who died of cerebral hemorrhage in South Boston on May 17, was born in County Limerick, Ireland, in 1877. He was a graduate of the Massachusetts College of Pharmacy and of the Harvard Dental School in 1901.

DR. FREDERICK SHURTLEFF COOLIDGE, a fellow of the Massachusetts Medical Society, died at New York, May 14, aged 49 years. He received the degree of A.B. from Harvard in 1887 and that of M.D. in 1891. After serving as house officer at the Massachusetts General Hospital he removed to Chicago where he became professor of orthopedic surgery at the Rush Medical College. Later he removed to Pittsfield, Mass, where he became a member of the staff of the Pittsfield Hospital. He is survived by his widow and one son.

DR. WILLIAM NEILSON, a retired fellow of the Massachusetts Medical Society, died at his home in North Leominster, May 14, aged 75 years. Dr. Neilson was born in Halifax, N. S., Feb. 4, 1840, and was a graduate of the Harvard Medical School in the class of 1872. He was engaged in general practise at Marblehead until 1905, when he was retired and moved to Arlington Heights. He had lived in North Leominster since 1912.

DR. JOHN A. LEE of Boston, who died on May 5 in Framingham, Mass., was born in that city in 1887. He received the degree of M.D. from the Tufts Medical School in 1911 and for a time practised his profession in Dorchester and Roxbury.

ERRATUM.

We regret exceedingly that, owing to the accidental misplacing of a galley, there occurred an error in the arrangement of the paragraphs of Dr. Honeij's article, "A Study of Leprosy," on page 635 of the issue of the JOURNAL for April 29. The first five conclusions of the article are printed on that page instead of with the remainder of the conclusions on page 671 of the issue for May 6. This error was not discovered until too late for rectification, but will, of course, be corrected in the reprints of Dr. Honeij's article.

BOOKS AND PAMPHLETS RECEIVED.

The Gold-Headed Cane by William Macmichael, M.D. Paul B. Hoeber. 1915.

Tables for the Computation of Curves of Autocatalysis, with Especial Reference to Curves of Growth by T. Brailsford Robertson, M.D. Reprint.

Human Motives by James Jackson Putnam, M.D. Little Brown & Co. 1915.

Sleep and Sleeplessness by H. Addington Bruce, A.M. Little Brown & Co. 1915.

The Meaning of Dreams by Isador H. Coriat, M.D. Little Brown & Co. 1915.

CASES OF INFECTIOUS DISEASES REPORTED

to the Boston Board of Health for the week ending May 18, 1915.

	Total Cases.	Non-Residents.*
Diphtheria	82	3
Scarlatina	114	12
Typhoid fever	3	0
Measles	231	3
Smallpox	0	0
Tuberculosis	61	3

The death-rate of the reported deaths for the week was 17.70.

* Non-resident cases are included in the total cases.